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ORIGINAL DEPARTMENT.

LECTURE.

ALBUMINURIA IN THE SECONDARY PERIOD OF SYPHILIS.

BY M. DREYFUS BRISAC,

Physician to the Paris Hospitals.

GENTLEMEN: Among the medical problems calculated to attract special attention in the present tendency to attribute most diseases to parasitic influence, are those relating to typhoid fever and syphilis. And this is nothing astonishing, since these two maladies may be considered as types of infectious disease in their two forms, acute and chronic. On the other hand, as the urinary apparatus presides over the phenomena of excretion, the study of the renal manifestations determined by these maladies cannot fail to throw considerable light on their physiology.

Whence the interest offered by the careful consideration of the most important symptom of renal pathology, albuminuria, when occurring during the course of typhoid fever or syphilis.

Albuminuria plays no unimportant part in the evolution of typhoid fever.

Is it of equal importance in a slowly-progressing infectious disease like syphilis? Such is the question to be resolved, and it is only within the past few years that it has received practical attention at a clinical point of view.

That diverse chronic diseases of the kidneys are met with in tertiary syphilis, such as sclerosis or amyloid degeneration, and probably also parenchymatous nephritis, can no longer be doubted since the researches of Rayer. But, as regards the secondary period of the disease, there has

been much discussion, and the most eminent syphilographers, those least inclined to restrict the domain of the malady, such as M. Fournier, declined to admit that the disease could at this early stage affect the kidney. It is within the last few years principally that the subject has attracted special attention, and the many works consecrated to it, merit particular attention, though as yet incomplete at many points of view.

"When the etiology in a case of acute albuminuria appears very obscure, search for traces of syphilis," was a favorite dictum of the late Prof. Gubler; and, though in opposition to the received opinions of the day, more recent research would seem to justify the opinion of our venerated master.

The two observations published by Perroud in 1867 passed almost unperceived. The thesis of Desconst (1878), attracted more attention, containing the history of a well observed and demonstrative case. Then the interesting memoir of M. Barthelemy, demonstrated the happy influence of the specific treatment in several cases of Bright's disease coinciding with the secondary accidents of syphilis. In a very extensive work on the subject, Negel give a resumé of all the cases reported, about twenty, and an analysis of Wagner's monograph (Weber, Morbus Brightii, 1882), with which we were already somewhat acquainted, through extracts from the work copied into various journals.

Certainly, all the observations collected by Negel cannot be considered of equal value; in a certain number of cases syphilis would seem to have acted simply as a predisposing cause; debilitating the organism and diminishing the vital re-

sistance to morbid influences. But if the old aphorism, *post hoc, non ergo propter hoc*, finds its application in certain cases, all can not be considered in the same category; in many the hypothesis of simple coincidence is by no means admissible.

When, with complete absence of any appreciable etiologic element, albuminuria, and the usual accidents of Bright's disease supervene, coincidently with the secondary accidents of syphilis, and when particularly these accidents, generally so rebellious to remedies, are favorably modified by the specific treatment, it should be sufficient to convince those most opposed to innovations in medical pathology. When we observe a case like that reported by Martinet (France Medic., 1881), where Bright's disease, coinciding with secondary syphilitic accidents, was cured by specific treatment, after the milk diet had completely failed, the specific nature of the disease would seem proven beyond doubt.

But notwithstanding this fact, it must be admitted that the renal manifestations are much less amenable to treatment by mercury than the other secondary accidents of syphilis.

On the other hand, it has been found that the association of iodide of potash with mercury proved much more effectual.

But as positive facts are of more value than negative, it would seem that we are at present authorized to rank albuminuria in the same category as icterus, among the possible accidents of secondary syphilis. It undoubtedly figures among the relatively rare accidents of this dyscrasia, for the statistics of Wagner appear to be somewhat exaggerated.

There is no clinical difference between Bright's disease occurring as an accident of secondary syphilis and the malady as usually observed. And, if it were not for the existence of syphilitic lesions, and the un hoped-for benefit sometimes obtained from specific treatment, the real nature of the disease would often remain uncertain. As in many cases, every sign of syphilitic taint has at this period disappeared, there is little doubt that many cases of this kind have passed unnoticed.

At a semiologic point of view, the observations published up to the present do not furnish the elements for a complete study. In some cases albuminuria alone is present without any general symptoms; others present, all the marked symptoms of acute parenchymatous nephritis (general malaise, pain in the lumbar regions, hæmaturia, generalized anasarca, sensory troubles, etc.); finally, in certain cases the symptoms are those of ordinary subacute nephritis.*

The termination of the affection is also variable and many of the cases were observed during too short a period of time. In a few cases complete cure was obtained, in others the disease passed to the chronic state, and in several others it was rapidly fatal.

The cases which proved fatal were few in number, explaining our penury in *post mortem* details; nevertheless, several observations reported (Perroud, Rémy, Wagner,) show that the lesions were those of parenchymatous nephritis, as might have been inferred *a priori* from the symptoms observed during life.

Such was the case in a patient in our service at the Hotel Dieu. From the symptoms and general antecedents we considered ourselves justified in considering the case one of nephritis of syphilitic origin, and we instituted a treatment in accordance with this opinion. The patient died rather suddenly during an attack of pleuro-pneumonia, and at the autopsy were found the lesions of parenchymatous nephritis. Finally, it should be said that it is generally during the year following syphilitic infection that the renal manifestations appear.

In certain cases these symptoms appeared much earlier, in four, three, or even two months subsequent to infection.

The clinical history and pathological anatomy of secondary syphilis of the kidney is as yet too undecided to form any very exact opinion regarding the pathogenesis of these morbid determinations. In this respect, two conditions are admissible here as in all infectious diseases.

Taking into consideration, particularly, the dyscrasic state of the system in syphilis, the functional derangements, and the organic lesions of the urinary apparatus may be attributed to a primary alteration of the blood, particularly of its globules or albuminoid principles. But it might also be affirmed that the micro-organisms of syphilis, in their migration through the kidneys, may determine a sort of traumatism of the arterial walls and of their cellular elements, and thus induce infectious nephritis.

Sufficient information is wanting to form an opinion on this point, which would require for its solution a microscopic examination of the coagulable urine by M. Bouchard's method, to recognize the presence or absence of the epithelial detritus of micro-organisms, and to demonstrate whether the albumen contained in the urine be retractile or not.

In fact, to resume this short study, it is very evident that but the primary factors of the disease have been traced up to the present.

It is, however, of too great importance at a clinical and therapeutic point of view to be allowed to pass without a much more extensive study of the diverse forms under which it appears. It is not sufficient alone to observe the evolution of albuminuria; the patients should be followed up when all manifestations of renal disease have disappeared.

It is not probable that the *restitutio ad integrum* is so complete that there does not remain some weak spot in the organ affected, certain limited points of arteritis or of epithelial degeneration. If such be the case, the slightest congestion or derangement might at any time provoke a new attack, and thus might, perhaps, be explained certain attacks of acute nephritis survening without apparent causation, and most frequently attributed to the action of cold for want of better etiology.

For that matter, the same question is still undecided for all forms of infectious disease, and, perhaps, in this conception of disease survening long after its primary cause had acted on the system, and in the germ theory will hereafter be found the solution of many a problem in etiology, which, up to the present, has remained obscure.

COMMUNICATIONS.

SLEEP AND DREAMS.

BY W. S. ROLAND, M. D.

[Read before the York County Medical Society.]

I have chosen this subject, not because of its commonness in practice and experience, but more especially because it is so variously handled by "many men of many minds."

The immediate cause of sleep, as likewise its object, is still an unsolved problem, and will, I think, ever remain an open question for thought and discussion. It is contended by some authorities, that "In the invasion of sleep, the senses first experience its inroads; the sight is dimmed, and the eyelids close; the taste, smell, and hearing are suspended; and lastly, touch ceases to be exercised. The internal senses, as hunger, thirst, and pain, are in like manner suspended. The intellectual and moral faculties suffer the same oppressive lassitude, their exercise becomes languid and painful; the ideas, dull and confused, are formed with difficulty, and without connection; thought is at an end; a species of reverie, or rather delirium succeeds; and finally, every act of the mind is suspended; perception and con-

sciousness, the internal evidences of existence, cease; organic life alone is manifest; animal life for a time has terminated. The act of sleeping resembles, and is in reality, a rehearsal of the act of dying." Now, as I do not endorse the above in all the fulness of its meaning, I shall further on advance and express my belief and opinion.

Dreams "are an intermediate state between sleeping and waking; imperfect consciousness continues, but the faculties are sluggish, and attention is dull; complete suspension of all the psychological operations does not exist, some continue in activity, or awake; ideas are formed, and consciousness is not entirely absent. From this state of imperfect sleep and partial repose of the intellectual and moral faculties, proceed dreams."

Dunglison defines sleep: "A temporary interruption of our relations with external objects, a repose of the organs of sense, intellectual faculties, and voluntary motion;" and dreams, "A confused assemblage, or accidental and involuntary combination of ideas and images, which present themselves to the mind during sleep."

In that great, grand Book of all books, the following passages are found: "And my sleep was sweet unto me;" "Yea, thou shalt lie down and thy sleep shall be sweet;" "In thoughts from the visions of the night, when deep sleep falleth on men;" "For in the multitude of dreams and many words, there are also divers vanities;" "Your old men shall dream dreams, your young men shall see visions," etc.

It is a well-established law of nature that sleep is absolutely essential to the existence of all mankind; the loss of it seriously impairs health, and existence is often shortened; but to enjoy the blessings of "tired nature's restorer," no one should attempt to get to sleep immediately after a full meal nor with an excited and disturbed mind, for to sleep well and enjoy perfect repose, all gloomy or depressing thoughts should be banished. The duration of sleep is not uniformly the same with all persons; some require more than others. The time requisite for the reparation of the functions of relation is said to be from six to eight hours. Thus sleep occupies nearly a third of life, and he who has reached sixty years, as it respects the operations of the psychological faculties, and including the time of infancy, has not lived more than twenty years. Infancy and old age demand longer periods of sleep, and females sleep more than men. Napoleon slept but little, and Caligula, it is said, but three hours out of the twenty-four. The celebrated John Wesley says

that for a period of more than sixty years, he was in the habit of going to bed at ten and rising at four, and that he had six hours of uninterrupted sleep, which he considered to be sufficient for his own health; he, however, very properly remarks that invalids and persons of delicate constitution, and those accustomed to much bodily fatigue, may require from seven to eight hours. Of abnormal somnolence, the *London Medical Record* has the following from the pen of M. Lasègue:

"A barkeeper was often taken with an irresistible desire to sleep while serving his customers, and putting his glasses on the table slept for a few minutes. A porter, in a glass merchant's, would stop in the street, lean against the wall with his basket on his shoulder and sleep, then, waking in a few minutes, would rub his eyes and go on his way. A young farmer was out hunting, when he sat down in a field and went to sleep, his companions being unable to awake him. He awoke in five or six hours, but the next day he went to sleep at the same time, and ever since has done so every day. This was a hypnotic sleep, which could be brought to an end by blowing on the face. A young girl went to sleep always at eight o'clock, day and night, with or without a clock. A Belgian countess went to sleep regularly at nine o'clock, whatever she might be doing, and remained until the following day in the position she then occupied. Her cataplexy was joined to hypnotism. She recovered after two years."

Dr. J. Gibbons Hunt, of Philadelphia, on one occasion said, that he thought "sleep was only a lazy habit we had got into;" but I think that even if we leave out altogether the evidences from the lower animals, the phenomena of plant life would be sufficient to convince us that organized nature requires rest. Nevertheless sleep is certainly much under the control of habit. Many of you doubtless have heard the story of the miller who was very sick, and for whose comfort the mill was stopped. But he was unable to rest quietly except under the influence of the noise to which he was accustomed, and the mill was again started. It is in fact a matter of common observation and experience, that the most violent motions or sounds will not wake up a sleeper if he is accustomed to them, and for this reason some sleepers do not wake up during a thunder-storm, the ringing of bells, a passing train of cars, or by the conversation of members of the family, but will awake quickly at a change of noises.

There is a funny-story related of an Irishman, and many good stories are peculiar to that class,

who on being told that a severe storm had occurred during the night, said to his companion, "Why did you not wake me up, for you know I can't sleep while it thunders."

It is asserted that the sensitive plant, so-called from its motions imitating the sensibility of animal life, if carried in a railroad car or any other kind of vehicle, will at first close up under the influence of the jolting motion, but will eventually get accustomed to it, will open, and then close when the motion is suddenly stopped.

But the momentous question, What is Sleep? I come now to that point where I beg leave to differ somewhat from the quotation in the commencement of this essay. Sleep, in my opinion, does seem to be merely an interruption of the relation between consciousness and sensation, and is not an entire suspension of either of these functions, for I believe that to some extent we smell, taste, hear, and feel when asleep, and the reason that we do not see is simply due to the fact that our eyes are closed, and not to any positive suspension of their powers. and here, in the words of a friendly correspondent, I remark, that vision is the only sense which we are able to fully interrupt by special mechanism; we cannot shut our ears, our noses, our tastes or feelings, against unpleasant sensations, and it has often been the expressed wish of many, "Oh, if I could only shut my ears as easily and completely as I can shut my eyes, what a satisfaction it would be."

But to return to the subject, we know that consciousness is not wanting in sleep, because dreams are evidences of its power; it must then appear that there is simply an interruption of the relation between these two functions, and the act of waking is simply the restoration of the normal relation between them. In true anæsthesia, the influence is more profound; the activity of both sensation and consciousness is diminished; as under the influence of anæsthetics the sensations experienced are, so far as impressions go, very different from those of naturally going to sleep or awakening.

As a general rule persons do not sleep well in a change of beds or in new places; this may be due to an unconscious influence of the instinct of self-preservation, the mind being in a temporarily alarmed state. There may also be something in the position of the sleeper in reference to the points of the compass; some persons think they can sleep best with their head to the north, and others to some other point. If the view that sleep is a break between sensation and consciousness is correct, then we should expect that as we

awake, this relation is gradually restored, and we may have a confused or mistaken interpretation of consciousness, which we call a dream. It is doubted by some, and I incline to the opinion, that dreams do not occur during a profound sleep; many think that they only do occur at the moment of transition from sleep to waking, or vice versa, circumstances that may cause dreams. If, for instance, by some accident, one's foot should get uncovered during a cold night, the sensation of cold would be finally sufficient to push its way through the dormant brain cells until the consciousness was reached, and then might come an imperfect perception, which the mind would refer to some cause known to be capable of producing it; thus the person might dream he was walking on ice. I lean to the view that dreams are never out of the sphere of our experience, that nothing is ever revealed to us through them, and I am sure that often they do not represent the most important topics upon which the mind may be engaged. Sometimes we dream (though somewhat disconnected) of our daily duties, and very often of secondary matters. Dreams present some features which seem to be common to all persons. It is not an uncommon thing, especially with women, to dream of being naked in the street. This is obviously the result of circumstances under which they retire. If they went to bed fully dressed, such dreams would be rare. It is not an uncommon thing to dream that one tries to run and cannot. This I believe is due to the recumbent position, the usual stimulus to the soles of the feet is missing and the pressure of the bedclothes upon the lower limbs gives a sensation of restraint, which makes us think we cannot run. Such dreams, I think, always occur when we are nearly awake. Sometimes we hear persons say that a dream occurred long after they got asleep or long before they got awake, but I doubt whether they can tell anything about it. If dreams do ever occur during a profound sleep, they are purely subjective, that is, they arise from influences entirely within the body. Such are the dreams produced by indigestion, disordered blood, etc., and are not the result of impressions on the senses proper, though even in such dreams it is not improbable that for the first effect of the subjective influence to partially wake the sleeper and then produce the dream.

There is nothing more desirable than a good, sound refreshing sleep, and if there is any preventive of dreams, it is found in good health, a clear conscience, good digestion, and absence from all exciting and stimulating causes.

The *British Medical Journal* describes some interesting experiments on this subject that have been made by M. G. Delaunay. According to psychologists, dreams are generally illogical and absurd. M. Delaunay, however, by covering his forehead with a layer of cotton wool, rendered at will his dreams healthy and intelligent. According to his experience, the dreams which people have when lying on their backs are sensuous, agitated and erotic. Those which occur when the dreamer is lying on the right side are changeable, full of exaggeration, absurd, and relate to old recollections. Those which occur when lying on the left side are intelligent, reasonable, and relate to recent occurrences. People often talk during the last mentioned dreams. The author considers that dreams, intelligent or otherwise, erotic or sober, can be induced by causing variations in the cerebral circulation, and by the nutrition of the various regions of the brain, either by the elevations of the cranial temperature or by decubitus. They, therefore, form an interesting field for psychological research.

Much of the above in my opinion is dubious.

Night Terrors Among Children.

Dr. Wm. B. Atkinson, of Philadelphia, contributes a few notes on the subject to the October number of the *Alienist and Neurologist*. After describing the nervous manifestations, the author goes on and says:

"The treatment must be directed to the avoidance of the causes, as fright, silly-shines, sleeping without a light, injudicious feeding, the relief of constipation, the use of abundance of fresh air and exercise; the latter even to the point of approaching fatigue, so that the child may sleep soundly without dreaming; and the employment of nervines and tonics, preferably those containing phosphorus and iron."

The further consideration of this subject, Sleep and Dreams, recalls the words of the poet Armstrong. He says:

"Great Nature droops
Through all her works. Now happy he whose toil
Has o'er his languid powerless limbs diffused
A pleasing lassitude; he not in vain
Invokes the gentle Deity of Dreams,
His powers the most voluptuously dissolve
In soft repose; on him the balmy dews
Of sleep, with double nutriment descend."

Hence, I may well add to the foregoing sentiment, that "tired nature, sweet restorer, balmy sleep," under no circumstances can be dispensed with. Both the body and mind enjoy (as we would say in our school days) a glorious vacation, by which the thoughts of the mind, the labors of

the hand, and our weary limbs, would secure the needful rest for a few hours, to prepare and fit us for life's duties on the following day.

To introduce sleep into our bodies, God has drawn around us the curtain of darkness, and as we repose upon our beds, our senses, under the influences of peace and silence and conscience, hears the still small voice whispering to our hearts, *He giveth his beloved sleep*. When we retire to our beds for rest, the mind should be gentle and serene—business thoughts and gloomy ideas should be avoided, because these if pondered over will greatly interfere with the refreshing influences of sleep. When sleep has performed its duty under the influence of a good conscience, the incoming dawn and daylight gleams through the windows, and we regain all our mental, moral, and bodily faculties renewed and regenerated. Hearing, seeing, smelling, tasting and feeling, all improve, every sinew braced for its accustomed work, and our affections reinvigorated with benevolence and charity.

But in the night through which we have passed we had dreams, producing impressions on the memory. They are a kind of vision in sleep, an idle fancy, a groundless suspicion; to which I may add that dreams are not of Divine origin, but are self-formed. Do you ask what share you have had in a pleasant sensation of dreaming? I reply, precisely the same that it has had in the coursing of your blood through your arteries and veins, in the pulsation of your heart, or of your brain.

As I am now treating of things which take place during the night, hence let me suggest a few thoughts. Do not uneasy and horrible dreams denote pain either of body or mind? or, in other words, a body overcome with food, or a mind occupied with melancholy ideas when awake? If this doctrine is true, based upon the principles of sound philosophy, then we must arrive at the irresistible conclusion that dreams are produced by some excess, either in the passions of the soul or the nourishment of the body. Hence we conclude that nature very properly punishes us by suggesting ideas and making us think how derelict we have been in not living a more acceptable life.

This question necessarily opens up for contemplation the subject of spectres and manes, of prophecy and prediction, but which I have no inclination to enter upon.

Petronius, a writer of antiquity, says that dreams are not of divine origin, but self-formed: and I will only add, that whatever view we take of the question, whether the memory impels the

brain, and the brain acts upon the soul, I think we must admit that our ideas come in sleep independently of our will.

Before concluding this subject, I desire to allude to one other topic, which, I think, is worth considering. Our ancestors of the Middle Ages slept naked. We surely have improved on that habit, but there is still room for more improvement to insure our personal comfort and good health. It is my opinion that when the time arrives to prepare for our night's rest, we should, if circumstances will allow it, have a complete night sleeping suit, of warm shirt, drawers, and stockings, which should fit us as well as our day's clothes. In our houses a room should be provided which could be warmed during the early evening, and in this room every member of the family could dress for bed, and to it they could come in the morning and change the dress. When all were up and dressed, the room could be opened, and the night clothes thus aired. Such a system would give great encouragement to the ventilation of sleeping rooms, the want of which is fertile of disease.

HOSPITAL REPORTS.

CLINICAL LECTURE.

Diphtheria.

A CLINICAL LECTURE DELIVERED AT THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA,
JANUARY 9, 1883.

BY WILLIAM F. WAUGH, M. D.,

Professor of Practice, etc.

This young man appeared at our clinic last Tuesday. During the preceding night he had had a chill. This was followed by fever, headache, vomiting, aching of the bones, and sore throat. His pulse was 118; temperature 102.6°; his skin dry and burning. He complained of pain in the left side of his throat, aggravated by swallowing. On the left tonsil was a group of small white spots.

The diagnosis was herpes. We distinguished it from diphtheria by the sudden and violent onset, the severity of the general symptoms, and the great local tenderness. Still our diagnosis was tentative, as diphtheria sometimes manifests itself in this way, especially when it is epidemic. We directed the case to be closely watched, and ordered the following prescription:

R.—Potass. chlorat., ʒj.
Acid. hydrochloric, f. ʒjss.

M. et adde.
Tinct. ferri chlorid., f. ʒij.
Aque destillat., q. s. ad., f. ʒiv.

Sig.—A teaspoonful every two hours, without water.

Our diagnosis was confirmed by the subsequent history of the case.

1. No exudation appeared on the surface of a blister which we had placed upon his neck.

2. No albumen appeared in his urine.

3. No depression was evident, even after the fever had subsided.

4. Immediate relief from the local and general symptoms followed the use of the prescription. He declares after the third dose he was almost well.

5. An eruption of herpetic vesicles appeared on both lips, on his nose and on the left cheek.

But seven days elapsed, and our patient has already returned to his work.

You will not dispose of diphtheria so readily.

Compare this case with the following, taken from my case-book during the last eight weeks:

1. A boy, aged 7 years, was seized on November 24, with symptoms of croup. He was hoarse, feverish, and fretful, and had a croupy ringing cough. Subsequently his voice was totally suppressed, respiration obstructed, abdomen retracted during inspiration, and other symptoms of true croup. The tonsils were inflamed, but no exudation appeared upon them at any time. Neither did the child have coryza or fetid breath. The treatment consisted in the administration of chloride of ammonium gr. ij., and calomel gr. $\frac{1}{4}$ every two hours, an emetic of alum at bed-time, and kermes mineral gr. $\frac{1}{4}$ every hour till vomiting was induced, for the nocturnal exacerbations. A vessel was kept upon the stove with freshly slaked lime and water. The child coughed up several large pieces of false membrane. He recovered, and was discharged December 3, still weak, and not having fully recovered his voice.

2. On December 9th I was called to see his brother, aged three years. He also presented symptoms of croup, and the tonsils were covered with white exudation, extending to the uvula and soft palate. He died in twenty-four hours.

3. As this child lay dead in his coffin, the mother kissed him. Three days later she was seized with sore throat, headache, fever, pains in the limbs, and great weakness. An ashy patch appeared on each tonsil; grew to the diameter of a dime, formed yellow sloughs, which left ragged ulcers when they fell off. Great depression was apparent from the first day, necessitating the energetic use of alcohol. She made a good recovery.

4. A girl, six years of age, was seized with croup, on November 25th. This case was similar to case 1 in every respect, except that a few white specks appeared on the tonsils. She received the same treatment, recovered, and was discharged on December 6th, still weak and with her voice not fully restored. During her illness four brothers had sore throat, with fever, aching bones, and great prostration. All had exudations on the tonsils. None of them were ill a week, and I should have been inclined to give their disease a milder name than diphtheria, but for the fact that one boy, who had a wound on his foot, found it covered with the exudation.

5. A cousin of these children, aged 10 years, visited them daily. She ate from the same dishes, and tasted their medicines with the same spoons. On December 5th she was seized with fever, headache, aching bones, great weakness, and

sore throat. The left tonsil was covered with a grayish-white exudation, more extensive than any of the preceding. I painted the patch with concentrated lactic acid, and had it repeated every four hours in a dilute form (one to four) in addition to the ordinary treatment. Some days later, when the exudation had almost disappeared under this active treatment, she complained of pain in the right tonsil. At first sight nothing abnormal could be seen except redness and swelling of the gland. On pressing it with a spoon, a deep slit was opened up, the sides of which were white. This was wiped out thoroughly with the lactic acid. She recovered in a week and was discharged, still feeling the effects of the disease in marked debility.

10. A boy, four years old, was seized on November 28, with fever, headache, and sore throat. Both tonsils were swollen and red, while on the left was a small white spot. It was so small, and the child so free from debility, that I hesitated a little before I told the father it was diphtheria. It is not well for a physician to get the reputation of being an alarmist, and these exclusively pharyngeal cases often get well so readily that one inclines to doubt whether they are really due to this dreadful disease. In this case the father relieved me at once by telling me another son was dying in the house of diphtheria. The next morning my patient was better, but during the forenoon the dead child was laid out in the next room, and at my evening visit I found a change for the worse. The exudation had extended to the size of a gold dollar, and a similar patch appeared on the other side. In spite of the treatment, sloughs formed which adhered to the tonsils for three weeks. Coryza made its ill-omened appearance, but was checked by injections of nitrate of silver (gr. v. ad. f. $\frac{3}{4}$ j.) After a hard struggle, in which the usual treatment was reinforced by the use of stimulants, rich food, and pure lactic acid locally, the boy recovered, but had paralysis of the pharynx afterwards. He was discharged December 14, a small fragment of slough adhering to one tonsil, but feeling quite well. During his illness, his mother showed a small patch upon one tonsil, but it disappeared so quickly under the ordinary treatment that I could scarcely call it diphtheria. An uncle, residing in the house, was also seized with the same symptoms, with white exudation, but recovered in six days. He had great debility during this time.

13. A boy of seven had been ill several days, when I first saw him on November 15. He had croup, with some spots on the pharynx, and died the next day.

The other three children in the family were seized at the same time with sore throat, fever, and exudation on the tonsils. One recovered before my arrival, without any medication. The second recovered promptly on the ordinary treatment. The third had more fever, aching of the bones, and headache, and also greater debility than the others. The exudation invaded the uvula and soft palate. Coryza began to show itself, but was checked by the nitrate of silver. She recovered, and was discharged on November 23. On December 24, I called at the house and found her suffering from paralysis of the optic nerve.

17. A boy, 4 years old, was seized with diphtheria on November 28th. The exudation quickly disappeared, but was followed by acute dysentery. This left him very weak, with hydremia, and general dropsy, from which he recovered slowly. His brother showed symptoms of diphtheria December 12th. The exudation appeared on both tonsils and on the posterior wall of the pharynx, where it formed sloughs. The disease had made progress before it was noticed, as he did not have the acute febrile symptoms present in some of the other cases.

The pharyngeal disease pursued a favorable course, the coryza yielded at once, but at the end of a week the symptoms of croup supervened, of which he died.

19. A boy, aged 4 years. I was first called at 10 a. m., and found his pharynx covered with false membrane, already smelling offensively, coryza established, and suffocation imminent from the laryngeal implication. Tracheotomy was quickly performed, but in spite of every effort the child sank and died at 3 p. m., just five hours after the physician had been first summoned. The other children, three in number, were playing in the street. I called them in, and showed the astonished parents the diphtheritic patches in the throat of each. The eldest had a discharge from his ear, which had excoriated the external meatus. In two days it became covered with a whitish exudation. These three children recovered after a prolonged struggle. I have notes of ten other cases (making thirty-two in all) which I will not give in detail, as they presented no points of special interest. The exudation was limited to the pharynx, and all recovered without difficulty. In all the diphtheritic cases, the treatment consisted in the use of the prescription ordered for the cure of herpes. You now see why I ordered it; because it cures herpes promptly, removing the fever and aching as well as the local pain and dysphagia. Moreover, it was a doubtful case, and had it proved to be diphtheritic, the early use of this medicine would have been most valuable. Much of the local effect is due to free chlorine, as this prescription has not as good an effect if it be not compounded in such a way as to generate this gas.

To secure the greatest local effect, I direct the medicine to be taken without water. As this might prove irritant to the stomach, it is best that a little water should be drunk immediately before taking each dose. In the worst cases it was given every half hour by day and every hour during the night, the patient being awakened for that purpose.

Not the least valuable effect of this medicine is the prevention of fetor. I have used it for eight years, and have yet to see a case treated from the first with this prescription which developed the horrible stench so common in this disease.

If the diphtheritic patch were thick or extensive, I applied lactic acid. Its solvent power is very great. The best results from local treatment are obtained when it is used early. When one case has occurred in a family you should examine the fauces of the others at each visit. If the smallest speck appears on the tonsils, it should at once be attacked energetically. Under these circumstances the disease disappears so rap-

idly that only the presence of diphtheria in the house warrants us in the belief that these cases are due to the same poison.

But when the disease has penetrated to the deeper layers of the mucous membrane, or where its germs are circulating in the blood, local remedies are insufficient to destroy it. This has led many to deny their efficacy altogether.

No constitutional remedy in diphtheria can compare with iron. You will rarely see an article on this disease in the journals in which iron is not recommended. Enormous doses may be given with the best effect, the stomach exhibiting a remarkable tolerance for it.

If the fever run high, quinine in large doses is indicated. When the heart's action grows weak, I administer it in small doses frequently repeated.

Of equal importance is the diet. The great tendency to prostration, even from the first, and the weakness of digestion, call for food in small bulk, highly nutritious, and easily digested. I usually prescribe it to be taken every four hours, alternating with milk, raw eggs, raw beef tea, coffee, café au lait, and ice cream. I am firmly convinced of the value of ice cream in diphtheria. It is very grateful to the little sufferer, contains a great deal of nutriment in a small bulk, and is very beneficial to the inflamed throat. It should be given very slowly in small quantities to avoid chilling the stomach. Some children prefer small pellets of ice, which may be sucked continuously. An attentive observer will recognize the time when solid food is required. Here I must protest against the prevalent notion that the farinaceæ are most easily digested. I have frequently seen the sick child turn with loathing from corn starch or toast, and then devour pickled tripe, soured pig's feet, or raw oysters with relish. No vegetable food is so readily digested as these acid albuminoids. The juice of oranges and lemons is very acceptable to most children, and is useful in many ways.

Stimulants are required in every case not quickly cured by local remedies. Children who are accustomed to beer will take it more readily than other stimulants. Laying aside the fanciful claims of the various spirituous beverages, it is generally best to use alcohol. That, at least, we can get in a state of comparative purity; while we can rarely be certain as to the genuineness of our wine or liquor. The best brandy depends for its stimulant effects simply on the percentage of alcohol it contains. It should always be given with food, as in egg-nog, milk-punch, or wine whey.

On reviewing the foregoing cases, we find, co-existing with true diphtheria, membranous croup, undistinguishable from sporadic cases of the same disease, amenable to the same treatment, yet undoubtedly arising from the diphtheritic poison.

Sporadic cases of membranous croup not occurring during the prevalence of diphtheria are very rare. In the course of five years' active practice, I have seen but one such case. But whenever diphtheria is epidemic, we have a number of cases of membranous croup.

Perhaps it is claiming too much to say that membranous croup is *always* laryngeal diphtheria, that it is *never* the result of the highest develop-

ment of laryngitis, but the statement is not very far from the truth. Should the views of Wood as to the origin of diphtheria from a micrococcus be confirmed by further investigation, the microscope may settle the question of the identity or otherwise of diphtheria and croup.

The diagnosis is not by any means as clear as it is laid down in the text-books. It was supposed that a pathological distinction existed between croupous exudations upon the mucous membrane, and the diphtheritic exudations penetrating it. But this distinction has been abandoned, since it has been found that when undoubted pharyngeal diphtheria existed, if it extended to the larynx it there assumed the typical croupous form, showing that the difference was simply due to the structure of the part attacked. Croup has been called æsthenic inflammation, whereas diphtheria is characterized by great debility.

My conviction is that croup is in general very much over-treated, and that by husbanding the patient's strength, treating the symptoms, and resorting to tracheotomy earlier, the mortality would be lessened. The greater debility in diphtheria is easily accounted for. "The lymphatics of the pharynx communicate freely with the numerous glands below the angle of the jaw, while those of the larynx pass only to a single gland below the hyoid bone, and a small gland beside the trachea." (Ruschka.)

Hence systemic affection is far more likely in the pharyngeal affection.

The local symptoms of croup are so grave that the general condition does not often receive much attention. I have not found the range of fever differ essentially from that of diphtheria. Albumen appears in the urine as frequently in one disease as in the other.

Finally, as to the occurrence of paralysis: a frequent sequel of diphtheria. It has been acutely remarked that few recover from croup to be affected with sequela. But even of those few, paralysis attacks some.

In the solitary sporadic case of membranous croup mentioned above, the child did not regain the power of speech for two months after the extrusion of the false membrane.

MEDICAL SOCIETIES.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Tubercular Cerebro-Spinal Meningitis.

BY J. T. ESKRIDGE, M. D.,

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[Read April 4, 1883.]

In the year 1768, Dr. Robert Whyt, of Edinburgh, in a small brochure, described the most common form of acute hydrocephalus, directing attention to the connection between acute inflammation of the meninges of the brain and dropsy of the ventricles. (*Observations on the Dropsy in the Brain*, 8vo., Edin., 1768.) About half a century later, French anatomists showed that in the majority of the cases of Whyt's disease, the membranes of the brain themselves are the seat of tubercular deposit. (*West on the Diseases of In-*

fancy and Childhood.) In the year 1825, Marshall Hall described the hydrocephaloid disease. Soon to his accurate observations were added those of Gooch and Abercrombie. In this disease, which is also called by Watson spurious hydrocephalus, no inflammation is supposed to exist, although more or less effusion is found in the ventricles. Fine granulations on the cerebral meninges, often unattended by inflammation appreciable to the unaided eye, had been observed for a long time, but their exact nature was unknown until the year 1830, when Papavoine showed them to be tubercles. (*Journal Hebdomadaire* for 1830, vol. vi., p. 113, quoted from West.)

The literature on the subject of tubercular cerebro-spinal meningitis is exceedingly meagre, many writers on tubercular meningitis not alluding to it. Dr. Samuel Jones Gee (Reynold's *System of Medicine*, edited by Hartshorne,) states that he has several times examined the cerebro-spinal opening *in situ*, and has always found the membranes about it perfectly healthy. The spinal internal arachnoid was distended with fluid, especially around the cauda equina. He never observed any other morbid condition within the spinal canal of persons dead with tubercular meningitis. It must be remembered that he examined the cord in a minority of cases.

About the year 1869, three observers, MM. Magnan, Hayem, and Lionville, published almost simultaneously cases of tubercular cerebro-spinal meningitis, giving as their opinion, that tubercles occurred at the same time in the membranes of the brain and cord. The special signs that they attributed to this disease were, tremblings, contractures, tossings, restlessness, tetanic seizures radiating to the neck and trunk, and temporary paralysis. Their autopsies revealed lesions of the cerebral membranes, and granulations on the surface of the spinal pia mater and on the arachnoid. Once the dura mater was most affected and fibrinous exudation was present. (*Le Progrès Médical* for 1881, Galliaux.)

Flint (*Practice of Medicine*, fifth edition, p. 702) says: "Tuberculosis of the pia mater of the spinal cord has been found in many instances, and, probably, is the rule." He, however, does not appear to have met with a case in connection with tubercular meningitis.

Huguenin, in his elaborate article on tubercular meningitis, (*Ziemssen's Cyclopaedia of the Practice of Medicine*, vol. xii. p. 505,) disposes of this disease in the cord in one short paragraph, as follows: "Our knowledge here is quite fragmentary. It is certain that tubercles are found in the spinal cord in many cases of tuberculosis of the pia, and also that their behavior is the same as in that of the brain. The inflammatory affection of the pia seems to pass down a varying distance within the canal. There are no trustworthy statements as to the changes of tissue in the spinal cord; but without doubt many symptoms would, after a more careful investigation of this subject, appear in an entirely different light from that in which they do now."

In the *Transactions of the Pathological Society of London*, in vol. ii., Mr. Shaw reports a case of tubercles of the brain, and of the spinal marrow and its membranes. The patient was paraplegic, but conscious to the last. In vol. xxi. of the

same transactions, Dr. Walter Moxon reports military tubercle of the spinal dura mater occurring in a case of tubercular meningitis. The patient was a girl, *et. 17* years. Duration of the disease was seventeen days.

In the *St. George's Hospital Reports* for 1879, fifty cases of general tuberculosis are analyzed. In a large number of these brain lesions were found, but in only one instance was the spinal cord or its membranes found diseased. It is not stated in how many instances the cord was examined, but that spinal lesions were unsuccessfully sought for in cases of tubercular meningitis appears from the report. The case in which the spinal meninges were involved, occurred in a seven-and-a-half months' child, male, *et. four* years, of strumous diathesis and of a consumptive family. The mind was precocious and the skin dry. The disease began with cough; headache after about two weeks, when the cough almost ceased. The duration of the lung trouble was about sixty-one days; of the head about forty-seven. Tubercles were found in lungs, pleura, and spleen?, on the meninges of the brain and arachnoid of cord, and a nodule was seen on the under surface of the cerebellum.

H. Rendu (*Recherches Cliniques et Anatomiques sur les Paralysies liées à la Méningite Tuberculeuse*, Thèse de Paris, 1873), Landouzy (*Contribution à l'étude des Convulsions et Paralysies liées aux Méningo-encéphalites fronto-pariétales*, Thèse de Paris, 1876), and Chateaufort (*Contribution à l'étude de la Méningite Spinale Tuberculeuse*, Thèse inaugurale de Paris, 1878, vi., 384), in the years 1873, 1876, and 1878 respectively, added contributions to our knowledge of the subject of tubercular cerebro-spinal meningitis. (*L'Union Médicale* for 1879, Dèbove.)

Dèbove (*Le Progrès Médical* for 1879) reported a case of tubercular cerebro-spinal meningitis. The patient was a man, *et. 29*, suffering from pulmonary phthisis. He suffered from severe lumbar pains and unsteadiness of gait for about two and a half months; paralysis of left leg and inability to void his urine three days; paralysis of both legs, insensibility of the left and partial insensibility of the right two days. Delirium was present for the first time about twelve hours before death.

At the autopsy tubercular granulations were found on all the membranes of the cord, most abundant on the pia mater near the anterior and posterior fissures of the cord. Congestion was intense in the lumbar region, and suppurative meningitis was most marked posteriorly in the dorsal. Tubercles were sparse and congestion slight in the cervical region. In the brain a few tubercular granulations were seen along the fissures of Sylvius, with little congestion of the meninges, without a trace of suppuration or fibrinous exudation. The cerebral substance was normal, and the ventricles did not contain an abnormal quantity of fluid.

Dr. Dèbove calls attention to the following facts in connection with his interesting case: First, the primary lesion was in the spine, the brain becoming secondarily affected, the reverse of what usually takes place. Second, the principal phenomena during life were due to the spinal rather than the cerebral lesion. In the first report of this case, he called it tubercular cerebro-spinal meningitis;

in his second, before the same society, a few months later, tubercular spinal meningitis.

Galliaux (*Le Progrès Médical* for 1881), after referring to the observations and conclusions of MM. Magnan, Hayem, and Lionville, gives a short account of a case of tubercular cerebro-spinal meningitis coming under his care. The patient was a man, and like that of Dèbove's was 29 years old. He was brought to the hospital in a semi-conscious condition two days before his death. His wife stated that he had suffered from cough six weeks, and a few days before being brought to the hospital the cough ceased, and at the same time he began to suffer from fever, diarrhoea, and epistaxis, symptoms which his medical attendant had attributed to typhoid fever. Galliaux detected well advanced tuberculosis of the lungs. The autopsy revealed, in thorax and abdomen, tubercular infiltration of the lungs with small cavities at the apices, pleuritic adhesions, extensive ulcerations in the intestines; in the brain, a normal dura mater, a pia mater presenting adhesions to the brain substance, most marked around the tuber cinereum, and on the internal surface fine tubercular granulations, most abundant in the fissures of Sylvius. No pus nor free fibrinous exudation was found. The meninges were not thickened or much congested, presenting nearly their normal transparency. Some serous fluid was around the tuber, and a similar fluid filled the lateral ventricles. The cerebral substance was soft, but presented no appreciable lesions; in the spinal canal, the dura mater was adherent to the visceral layer of the arachnoid, its bloodvessels were injected, evidences of slight inflammation were present, and fine tubercular granulations were found on its internal surface.

L. Dubar's (*Méningite Cérébro-spinale Tuberculeuse*, *Bull. Soc. Anat. de Par.*, 1879, 4 s iv., 240-243) contribution to the subject I was not able to obtain, nor were the results of the investigations of Von-Azary accessible. Von-Azary (*A. Beiträge zur Tuberkulose des centralen Nerven-systems der schweine*, *Deutsche Ztschr. f. Thiermed.*, Leipzig, 1880, vi., 254-269).

As the following case presents many features in striking contrast to the phenomena exhibited by those already reported, I venture to record it, with as concise history as possible, containing numerous general and surface temperature observations, in the *Transactions of the College*:

H. J., *et. sixteen* months, was moderately well nourished, but excitable. A superficial suppurating gland had existed on the anterior portion of the neck since the early months of infancy. The father, about thirty-five years old, a German, has a strong and sturdy constitution, and gives an exceptionally good family history. The mother, also of German parentage, is thin, anemic, and painfully nervous. So far as she knows her ancestors were free from phthisis and scrofula: her father and mother, about seventy years of age each, are living and well. Some of her brothers died from pulmonary consumption, apparently induced by exposure and dissipated habits.

When about ten months old, the child had an irritative fever, apparently from teething, lasting four or five days. During the morning of April 15, 1882, about six months after suffering from the fever, it was apparently well, and spent a

portion of the time in playing about the yard, but late in the afternoon, it became feverish, fretful, and refused to eat. The symptoms grew worse, and I was called at noon the next day. I found undoubted evidences of alarming illness attended by great prostration. Ten or fifteen dark blotches of extravasated blood were seen on various portions of the body; the head was somewhat retracted, and the eyes were turning from side to side; temperature 103° ; pulse 150; respiration 84. The central incisor teeth only were erupted, but the gums covering the lateral incisors were swollen and painful. These were freely lanced, and the child placed in a hot bath and given potassium bromide. Grave brain trouble was suspected. At 4 p. m., pulse 180; respiration 96. A violent tetanic convulsion with occasional clonic movements took place during the examination. The face was extremely pale, and the child thought to be dying. The convulsive seizure lasted in its worst form about one hour, during which time the little patient lay immersed in hot water. After the fit passed off, the left arm and leg remained rigid, the hand being shut and the foot extended until 4 a. m. the next day. The first evening of my attendance the temperature fell to 102.6° ; the pulse varied from 160 to 180, and respiration from 90 to 96. The hemorrhagic extravasations under the skin disappeared when the body was immersed in warm water. Beginning on the morning of the 17th with temperature of 101.5° , pulse of 160, and respiration of 84 per minute, the symptoms gradually ameliorated during that and most of the two succeeding days.

April 19. Morning, temp. 100; pulse, 118; resp. 50. It was still restless, refused to eat, cried and moaned most of the time, and slept in short naps only. 8 p. m., temp. 103.8° ; pulse 135; resp. 84. The change was sudden, the child apparently being much worse. A cough beginning about that time was the only evidence of chest trouble. Twenty-four hours later the resonance of the apex of the left lung was noticed to be much impaired, but no rales could be detected. On the 20th the child slept a good portion of the time. From the 20th to 24th it took but little nourishment, vomited large quantities of phlegm, and incessant cough, attended by large mucous bronchial rales, heard all over the chest, kept the little patient fretting. The temperature ranged from 101.8° to 103.5° ; pulse from 112 to 140; respiration from 40 to 60.

24th. 11 a. m., temp., 98° ; pulse 120; resp. 48. 6 p. m., temp., 105° ; pulse 130; resp. 60. From the 24th to the 29th, the daily range of temperature was from 98° to 100° - 103° , the rise being as often during the morning as the afternoon hours. The pulse varied from 130 to 140, and respiration from 68 to 70. On the 29th, when the Cheyne-Stokes respiration was present, the temperature did not descend below 101° , and reached 102° at 6 p. m. In the evening Dr. Charles K. Mills saw the case with me, and we agreed that it was probably tubercular meningitis of an irregular type, although the peculiarity of some of the symptoms made us doubtful as to the accuracy of the diagnosis.

On the 30th, the morning temperature was 98° ; pulse 116; resp. 50; evening, temp., 104° ; pulse 170; resp. 70. The pupils were still small,

the head was again retracted, and the child kept up a pitiful moan. During the afternoon, Dr. T. G. Morton met me in consultation. He thought it was a case of tubercular meningitis. Every effort was made to keep the child nourished. In the way of medication it was given the potassium iodide and bromide, and small doses of calomel or corrosive sublimate. When the bromide failed to relieve, twenty drops of the camphorated tincture of opium were administered every hour until quiet was produced. Cold was occasionally applied to the head, and mustard, from time to time, to the nape of the neck.

May. During the month the highest axillary temperature was found on the 11th, in the morning, when the thermometer registered 105.5° ; the lowest was taken on the 1st, also in the morning, and was 95.6° . The exacerbations of fever were very irregular. On a few occasions during the month, the temperature rose to 103° to 105° , and descended to normal or below the same day, but the febrile paroxysms, however, extended over a period of twenty-four to thirty-six hours, and the full, during which the temperature was normal or subnormal, lasted from twelve to twenty-four hours. Twice the period of heightened temperature with remissions lasted six days (from the 6th to the 11th, and the 26th to the 31st, inclusive). Only once, (on the 15th, 16th, and 17th) did the temperature remain normal or below a period of three days. Throughout the month, the fever had marked remissions which were always attended by free perspiration, simulating in this respect, malarial remittent fever. The pulse and respirations were frequent, being most rapid, as a rule, when the temperature was highest. The pulse range was from 116 to 180 per minute, being 170 on one occasion, when the temperature was only 96.5° , and frequently having a rate of 150 to 160 with a normal or subnormal temperature. The frequency of the respiration varied from 36 to 86 per minute, the average being about 60. Those interested in a complete record of the temperature, pulse, and respiration, are referred to the tabular view of this case.

The posterior muscles of the neck were quite firmly contracted on the 5th, and remained so nearly two days. From the 1st to the 8th, the child was very restless and required repeated doses of camphorated tincture of opium. On the 9th, it became more quiet, but semi-choreic movements of the muscles of the neck, face, and upper extremities, when it was awake, were noticed. Those movements at that time lasted parts of two days only. During the entire day, on the 11th, the child was drowsy, and could scarcely be awakened, although it had taken nothing to induce sleep the previous two days. It would drink, however, when milk was poured into its mouth. From April 16 to May 11, the pupils had been rather small, and often very much contracted, but subsequently to the latter date they were noticed to dilate, sometimes to their full extent, just before and during a paroxysm of head pain. On the 14th, cough, which had been absent nearly two weeks, returned and was more annoying than during the first attack of pulmonary trouble. Numerous subcrepitant rales, most abundant in the upper portion, were heard in the left lung. On the 14th, seven and a half grains of quinia

were given in divided doses. In this daily quantity it was continued for a period of two months, with the exception of two or three days, when it was temporarily suspended. From the 13th to the 31st, the child was very restless, keeping up an almost constant cry, and apparently suffering great pain. Opium was the only thing found to give relief. On the 18th, the choreic-like movements returned and continued a day or two. On the 19th, about the time that the lateral incisor teeth were erupted, the left ear began to discharge considerable non-offensive pus. The next day eight twenty-drop doses of camphorated tincture of opium were given at hour intervals before rest was obtained. On the 22d, when the muscles of the back and right side of the neck were contracted, ten thirty-drop doses of the same were given at equally short intervals; and on the 23d, fourteen and a half drachms, or nearly two ounces, of this preparation of opium were administered without entirely quieting the child. The discharge from the left ear, still yellow, was thinner and more offensive. It soon became exceedingly unpleasant; by the last of the month the ear ceased to discharge. Instead of the camphorated tincture of opium, morphia was subsequently employed, and gradually increased; the quantity within two weeks necessary to quiet the child during some of the nights, being two and a half grains. During the afternoon of the 31st, the little fellow was bright, free from pain, and quite playful.

June and July. The temperature during those months ran a less variable course, reaching 104.1° only once (June 9), and never descending more than a degree and a-half below the normal. The average temperature for the two months was about 99° . The pulse range was greater, the frequency being 180 on a few occasions, and once (July 8) as low as 86 per minute. When the pulse was slow it became intermittent.

July 5. The head was again retracted, large doses of morphia being necessary to afford relief. About that time the child became very passionate, screaming and striking at every one (except its mother) who came near it. It was conscious and rational, and would promptly answer in the affirmative when asked if it wished to be taken out in its coach.

8th. The left ear was again discharging non-offensive, thick, yellow pus. A diffuse bronchitis

with numerous mucous rales, causing great oppression in breathing, set in about that time, and lasted three or four days.

On the evening of the 11th of June, with widely-dilated pupils, the child began to scream, and continued to cry vigorously, manifesting other expressions of pain four or five hours, notwithstanding four doses of one-third of a grain of morphia each were administered at short intervals. The next morning it seemed to be free from pain, but was not sleeping continuously.

14th. Both ears were discharging quantities of yellow, non-offensive pus. No teeth were about to be erupted, the gums not being swollen. From the 1st to the 14th of June, the little sufferer, when not under the influence of morphia, was almost constantly screaming.

About the middle of June it became quiet, and ceased to cry except when disturbed. During the latter half of June, and the entire month of July, no anodyne was required. When the administration of large quantities of morphia was necessary the axillary temperature was only exceptionally above 99° .

19th. A diarrhoea began and lasted a few days, the food passing through the bowels undigested.

July 1. I began to register the surface temperature of the head, not having ventured before because I feared the irritability and restlessness of the child would endanger the safety of the thermometers (two thermometers always being used at the same time).

On the 8th, the pulse was slow and intermittent, the stomach irritable, and the bowels loose. It was noted that the child was decidedly worse every second day, being feverish some time during the twenty-four hours on alternate days. The fever always passed off by free perspiration. During the month the little patient seemed to improve, and it was taken into the open air every clear day, and sometimes into Fairmount Park during the early morning hours.

August. From the 1st to the 15th, the child was quiet, and did not fret when left undisturbed, the temperature ranging from 97.5° to 99.5° .

On the afternoon of the 16th, it suddenly became convulsed, was rigid, and remained in this condition about ten minutes.

(To be continued.)

EDITORIAL DEPARTMENT.

PERISCOPE.

The Pathology of Diabetes; Especially Dealing with Diabetic Coma.

Dr. Stephen Mackenzie, Physician to, and Lecturer on Medicine at, the London Hospital, in a paper bearing this title (*British Medical Journal*), gives a total of thirty-seven fatal cases of diabetes in the London Hospital from the beginning of 1874

to midsummer, 1882. "From this series of cases, twenty-one of which have been under Dr. Mackenzie's own care, it appears that coma and phthisis are the two most common modes of termination of diabetes. Coma is a much more common ending of diabetes, than is often supposed by those who see but few cases of the disease. In this series, coma of a peculiar kind was the termination of diabetes in nineteen out of thirty-seven cases, or in just over half the number. Of these nineteen

cases of coma, in seven *post mortem* examinations showed no gross visceral disease to which the coma could be attributed; in four cases without *post mortem* examinations, there was no *ante mortem* evidence of visceral disease in three, and in one there were well-marked signs of pneumonic phthisis during life. Further, there were eight deaths from coma, with old or recent pulmonary disease found at the necropsy; in some of these the affection of the lung was insignificant, in others advanced. The coma that closed the scene in the cases of diabetes, implicated (or followed) by pulmonary disease, had certain special characters, to be presently described, showing its connection with the diabetes, rather than with phthisis. It was not the mere loss of consciousness that terminates so many exhausting diseases. Suddenly developing coma is an unusual ending of ordinary phthisis. Besides these nineteen cases, in three others death was by coma, but an obvious explanation was presented on *post mortem* examination, viz., cerebral hæmorrhage, meningitis, suppurative nephritis.

Onset.—Pain in the epigastrium or hypochondria, often very severe, sometimes ushers in the attack, and may precede for several days the coma. Delirium, usually of a light garrulous kind, is observed in some cases. Rapidity of pulse is occasionally the first indication of impending coma. Vomiting and diarrhoea, separately or together, was noticed in some cases for a day or two before the attack. Severe headache precedes the coma in others. Fatigue, as pointed out by Prout, and noticed by nearly all who have written on the subject, often determines coma, and the latter is thus frequently induced by a journey.

Special Features of the Coma.—One of the most striking symptoms in most, though its degree varies in different cases, is a peculiar laborious breathing—an “air-hunger,” extraordinary efforts of filling the chest being made. The patient lies gasping for breath, like a person after violent exercise, whilst no condition in the respiratory organs accounts for its occurrence. Sometimes, this dyspnoea precedes the coma, sometimes the dyspnoea and coma appear together. The coma in most cases commences gradually. The patient can at first be roused, but it steadily progresses until it is profound. It occasionally commences more abruptly, and in a few cases passes off, usually to return. The surface of the body is generally cold, and the skin and mucous membranes livid; the pulse is rapid and small, and ultimately becomes uncountable. The external and internal temperature sinks exceedingly low, and Dr. Mackenzie has known the temperature in the rectum to be little over 90° Fahr. This combination of coldness, lividity, and rapid pulse has led me for some time to call the condition “coma-collapse.” Incontinence of urine is noticed in some patients. The breath has been noticed by some good observers to have a peculiar odor, like sour beer, vinegar, acetic ether, acetone, etc.; but in no case that Dr. Mackenzie has observed has this been detected, though he has been on the outlook for it since 1874, and has directed the attention of those watching the patient to the point. Dr. Frederick Taylor’s experience is similar. It has been said that a high temperature is necessary for its occurrence, owing to the low

volatility of acetone. The urine is also said sometimes to give off a similar odor, but the author has not noticed it even when evaporated. In some cases, the addition of a solution of perchloride of iron to the urine produces a deep brown color. This, which is a test for acetone, Dr. Mackenzie has noticed in some cases.

Two Deaths During the Administration of Anæsthetics.

In the *British Medical Journal*, May 26, 1883, Mr. J. H. Lee Macintire, Medical Superintendent Bristol Royal Infirmary, writes:

“H. C., male, aged 54, was admitted to the Bristol Royal Infirmary, December 30, 1881, suffering from a strangulated inguinal hernia of sixty-four hours’ standing. He had vomited almost incessantly from the first, and for the last twelve hours the vomited matter had been fecal. On admission his tongue was moist, his pulse weak but regular, and his aspect somewhat pinched. Chloroform was administered preparatory to an attempt at reduction by taxis, and everything went on well for the first minute and a half, a little over one drachm being inhaled, and this amount was divided into three parts. He then commenced to struggle a little, and his pulse was noticed to have improved, when he was seen to be about to vomit. The vomited matter measured almost a pint, and was stercoraceous and very fluid. Loud tracheal râles were now heard, and the breathing for the first time became embarrassed. He was immediately turned over, when nearly two quarts of fluid were ejected. His pupils were now widely dilated, his pulse failed, and he became cyanosed. Artificial respiration, inversion, cold affusion, and dragging forward of the tongue, were at once tried; air entered the lungs freely, there were no tracheal râles, and the pupils became contracted. He now vomited again, or, rather, some more fluid poured out of his mouth. Attempts to resuscitate him were persisted in for over twenty minutes, but without avail. From the first arrest of pulse and respiration, neither heart-beat nor voluntary attempt at respiration was noticed. The first vomit occupied about a minute. The *post mortem* examination showed the heart healthy, aorta slightly atheromatous, kidneys granular, and a small quantity of food, which appeared to be partly digested milk, and which was about as large as a pea, was lodged just below the rima glottidis.

“M. T., female, aged 45, who had been in the ward some days with an abdominal tumor, was, on April 19, 1883, examined under the influence of an anæsthetic mixture consisting of one part of chloroform to three parts of ether. She was known to have chronic bronchitis, and was suspected of phthisis at the right apex. She had taken some beef-tea and egg a short time before the examination. She took the anæsthetic very well, becoming unconscious in three minutes and remaining so for ten, when her breathing was noticed to be growing shallow, but her pulse, color, and pupils remained unaltered. She took three respirations, each more shallow than its predecessor, and gave signs of being about to vomit. She was just about to be turned over on her left side, when her breathing stopped, whilst her heart could still be seen acting. Her pulse then failed,

her face became livid, and her pupils about two-thirds dilated. Inversion and artificial respiration were immediately tried, and air entered the lungs freely, with a total absence of tracheal râles. The pupils were now noticed to be about three-fourths dilated, and some half-digested liquid food oozed out of her mouth. In case any might have entered the larynx, although there was no reason to suspect such an accident, tracheotomy was performed. Artificial respiration was kept up for half an hour, and inhalations of nitrite of amyl, injections of ether, cold affusion, and an enema of brandy, were also unsuccessfully tried, the patient showing no sign of returning animation from the first, with the exception of closing her jaws firmly about five minutes after the commencement of artificial respiration. *Post mortem* examination showed the heart-vessels and brain to be healthy, and there was no food in the air-passages. The abdominal tumor was due to tubercular peritonitis, and there was general bronchitis, and some tubercle was found in the apex of the right lung.

"In both cases the anæsthetic was administered on a flannel mask which covered the nose and mouth."

Fatty Hypertrophic Cirrhosis.

The *Med. Times and Gaz.*, April 21, 1883, says:

It seems we are to add yet another to the long list of diseases that may attack the liver. We gather from an article in the *Progrès Médical* (No. 9, 1883,) that henceforth we must consider fatty hypertrophic cirrhosis to be distinct from any of the forms of cirrhosis hitherto described. Let us very briefly see what are the characters which thus separate it from the other forms. The liver is very large, being so altered in its transverse and vertical diameters as to appear more cuboid in shape than usual; it has, moreover, a pasty feel and yellowish color; its surface is smooth; Glisson's capsule may be thickened in places, and its prolongations can be traced with the naked eye into the substance of the liver. On section, the liver seems to be composed of fatty nodules, varying in size, more or less circular, and almost always completely surrounded by connective tissue. In some places, the increase of connective tissue is enormous. Under the microscope the various lobules can be seen to be quite distinct; in their midst are the hepatic cells, separated by, and dotted about amongst, the large fat cells. These fat cells are nothing else than the ordinary hepatic cells, enormously distended with oil globules. The essential feature of the lesion is that between these groups of fat cells there is always found to be a layer of young connective tissue. The overgrowth of connective tissue commences in the portal spaces, spreading thence between the lobules; it extends always to the sub-lobular veins, and sometimes surrounds the minute bile-ducts, producing an apparent resemblance to the ordinary hypertrophic cirrhosis. The symptoms of this affection in an early stage, present nothing characteristic; pain and weight in the epigastrium, anorexia, nausea, occasional vomiting are the more common ones. The second stage usually commences rather abruptly; very often there is fever, œdema of the limbs or face,

a sense of great oppression, or profuse sweats; these may all make their appearance at the same time. Sometimes there is subacute peritonitis or slight icterus and cough with blood-stained sputa. On examination of the abdomen, the liver will be found to be enlarged; or, if it cannot be made out, there will be an unusual degree of fulness in the epigastrium, and a slight amount of ascites. Signs of pulmonary phthisis will generally be present. This second period does not usually last more than four or five weeks. There may be deceptive remissions, but the ultimate result is always the same; and the patient dies sometimes of his phthisis, sometimes from cachexia, and sometimes with the symptoms of icterus gravis. There are two points to be borne in mind in the consideration of the etiology of this disease, viz.: 1. The patients are invariably alcoholic; and, 2. They are nearly always tuberculous. The prognosis is most unfavorable, and no particular line of treatment is recommended.

A New Dressing for Wounds.

The *Med. Times and Gaz.*, May 26, 1883, says:

From Professor Bruns, of Tübingen, we receive a fresh addition to our means for carrying out the after-treatment of wounds, in the form of a preparation which he calls "wood-wool," and which he recommends to surgeons (*Berl. Klin. Woch.*, No. 20). Fine-grained wood in the form of splinters and shavings such as are largely employed in paper factories, according to Bruns, is the kind of material to be used in preparing the dressing which is called wood-wool. Pine wood is preferred, and especially the *Pinus picea*, which is poorer in resin and of coarser grain as compared with the wood of other pines and firs. The further preparation of the wood shavings and splinters consists in their reduction to a state of finer division by being rubbed through a wire sieve, then dried, and finally impregnated with various antiseptic substances. That considered best is a half per cent. of corrosive sublimate and 10 per cent. of glycerine (the percentage apparently referring to the ratio between these substances and the wood-wool). The advantages of such a dressing are believed to be manifold. Compared with ashes and turf it is absolutely clean, fresh, and of white color, and is soft and pliable like ordinary wool, and withal of extraordinary cheapness. It possesses, in virtue of its contained resin and ethereal oils, certain antiseptic properties, and is so easily adapted to the wounded parts, and of such elasticity that a uniform and equable pressure is easily obtained. Its principal property, however, is its extraordinary power of taking up fluids; in this it excels all other forms of dressings: it absorbs twelve times its own weight of fluid, so that ten grammes of dried "wood-wool," after complete saturation, weigh 130 grammes. Simple sawdust absorbs only three to four times and a half its weight of water, ashes only nine-tenths, and sand only four-tenths. This dressing had been in use by Bruns for half a year, and he has every reason to be greatly satisfied therewith. With the exception of one case of erysipelas, no secondary accidental wound-diseases were met with.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT LITERATURE.

—*Harper's Monthly* for July is excellent. Its frontispiece, "The Witch's Daughter," is a charming reproduction, by J. P. Davis, of F. S. Church's beautiful painting. Finely illustrated and very readable are, "A Famous London Suburb," by William H. Ridgway; "The Romanoffs," second article, by H. Sutherland Edwards; "The Second Generation of Englishmen," by T. W. Higginson; "Chatterton and his Associates," by John B.ingham, and "Cincinnati," by Olive Logan. The continuation of the novelette, "A Castle in Spain," and the shorter articles, "Conventional Art," finely illustrated, and "Born to Good Luck," with some very pleasant poetry, make an exceedingly interesting number.

—The July number of the *Century* is good all the way through, and its illustrations are unusually fine. "Striking Oil," by E. V. Smalley, is a spirited article. "Old and New Roses," by H. B. Ellwanger, very beautifully illustrated. Other articles are, "Black Bass Fishing," by James A. Henshall, and Geo. W. Cable's "Flood and Plague in New Orleans," with the other interesting but not illustrated articles, "Nights with Uncle Remus," and "The Native Element in American Fiction," by Herbert Norse, and "Summer Songs." The frontispiece, a portrait of the old hero, John Brown, with A. B. Boteler's "Recollections of the John Brown Raid," and Frank B. Sanborn's "Comments by a Radical Abolitionist," awaken memories of the days that tried men's souls.

—*St. Nicholas* for July opens with a charming picture, "The Lifting of the Fog," to accompany a finely illustrated article on the "Brooklyn Bridge." With the usual sprightly articles, finely illustrated, are the very interesting continuations of "The Tinkham Brothers' Tide Mill," "Swept Away," by Edward S. Ellis, and "Work and Play for Young People," by Charles G. Lealand, all illustrated. It is a charming number.

BOOK NOTICES.

Bacteria and the Germ Theory of Disease. By Dr. H. Gradle. Chicago. W. T. Keener. 1883, pp. 216.

The germ theory of disease is now so universally recognized, and is so intimately associated with an intelligent conception of pathology, that it is

necessary for every intelligent physician to have some knowledge of it. The work before us treats intelligently, and fully on the subject, commencing with a comparison between the ancient and modern ideas as to the etiology of disease; and describing very clearly the various micrococci and bacilli about which we have been reading so much of late in the journals. The methods of recognizing the bacilli are well described, and in a word, the work forms an essential to the physician's library, and is just the book to be carefully read, before perusing the one next noticed.

On the Relations of Micro-organisms to Disease.

By William T. Belfield, M. D. Chicago. W. T. Keener. 1883, pp. 116.

This book contains the "Cartwright Lectures," delivered in New York last February. Much misapprehension exists among the ranks of the profession as to the true relationship between micro-organisms and disease; hence these lectures, in which Dr. Belfield clearly demonstrates the connection between them, prove most valuable and timely. Dr. Belfield has personally inspected the home of bacteria, in the Koch laboratory at Berlin, and has devoted much study to the subject, making him peculiarly fit to instruct us. The work is illustrated and is particularly well adapted to follow the reading of Dr. Gradle's work on bacteria. We have received numerous and varied inquiries concerning bacilli, micrococci, etc., and to all, we would say in reply, read these two books and you will have a very excellent acquaintance with the subject.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs, by Samuel W. Gross, A. M., M. D. Second edition, thoroughly revised. Philadelphia, Henry C. Lea's Son & Co., 1883, pp. 176.

This work is already well known to the profession, and it will be only necessary to make mention of the appearance of this new edition. It would be superfluous to tell our readers, that any work coming from a Gross, Sr. or Jr., is worth reading, they know that already. Should any of our readers have failed to hear of this work before, we would call their attention to the great importance of the subject, than which none other deserves more and receives less of our serious consideration.

Realizing the importance of the subject, we will merely add, that any one who resides in Philadelphia fully appreciates the eminent fitness of Dr. Gross to write this work.

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With January 1st, 1883, the COMPENDIUM OF MEDICAL SCIENCE, formerly published half yearly, has been commenced as a *quarterly*, to be issued on the 1st of January, April, July, and October.

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THE DECADENCE OF FRENCH SURGERY.

The French surgeons are resenting with considerable vehemence the rather generally felt idea that surgery is not on the advance in France.

Professors Verneuil and Trelat have recently given utterances to strong language on the subject, the former saying:

"If we appear to have thrown back operative surgery to the second rank, this has been in order to advance surgical therapeutics into the first rank. If we have shown but little eagerness to extirpate cancers of the larynx and uterus, to excise the œsophagus, the pylorus, or the lung, to tie the aorta, etc., this has been because our Gallic good sense has enabled us without difficulty to foresee the inevitable destiny of these extravagant vivisections, and that it appears to us of no utility boasting to-day of that which will be rejected to-morrow. If in our surgical wards we greatly hesitate to transport the results obtained in laboratory experiments, that is because we do not assimilate man with batrachians and rodents, or even with the mammalia, the most elevated in the animal scale."

Prof. Trelat observed:

"I associate myself with the warm expressions of Prof. Verneuil in vindication of the true place of French surgery. Without abandoning the search for operative skilfulness, which for us is a patrimony, we are by education, by nature, by the organization of our hospitals which furnish us with patients to treat, by medical therapeutics as much as by works of the hand, more inclined than our neighbors to the nicety of diagnosis, to severe discussion of indications, and to precise determination of methods and procedures. For these same reasons of education, of nature, and of hospital organization, foreign surgery, and especially German surgery, tends to become exclusively operative. The amphitheatre is a workshop in which final success—beneficial and durable success—does not always bear relation to the enterprise executed almost before it has become conceived. Truly, there is no reason to abandon our course. Look back, and see what has become since thirty years of the great question of excis-

ion in chronic affections of the joints. What a resection fever prevailed around us then! At the present time the cause has been gained both in and out of France. By taking greater care of our patients, we have become able to determine the true indications for operation. When these are present we act up to them; but how much more rare are they than surgeons affected to believe abroad; and who can tell the number of joints that we have saved from the knife and the saw? This example is encouraging. Let us profit by it, and maintain our disposition for work, prudence, and good sense."

Here, again, we have evidence of Franco-German antagonism, and we are glad of it.

Competition is healthy, rivalry begets progress, and so the world moves.

Let us now hear what reply the Germans have to make to these slurs on their progressive surgery.

A CONTRIBUTION TO THE KNOWLEDGE OF LEAD POISONING.

In Virchow's Archiv. Bd. xcii., Hft. 2, S. 193, Dr. H. v. Wyss appears in an article with the above title. In spite of the fact that numerous experiments have been made during recent years, notably those of Harneck, and a mass of experimental and clinical evidence accumulated, still important questions remain undecided. He hoped that by feeding a dog with small doses of lead for a long space of time, he might produce a series of symptoms resembling those seen in chronic lead-poisoning in man, and by determining the distribution of the lead in the various organs of the body, obtain information that would lead to desired explanations. His plan was to give these small doses, and thus, if possible, produce a series of similar phenomena to those observed in man, especially in regard to the production of peripheral palsies; and although the results were for the most part negative, they are still given as a possible means of throwing light upon the subject. The following is a condensed description of the experiments and the conclusions:

A small rat was taken and fed upon acetate

of lead, the minimum daily dose being 0.02, which was gradually increased until a maximum daily quantity of 0.6 was reached. The duration of the feeding lasted from July 10, 1880, to July 16, 1881, and a total amount of 49.22 of acetate of lead was taken. Only two intermissions in the process were necessary to allow the animal to regain lost appetite. In March a blue line appeared upon the gums, especially marked about the base of the upper canine tooth. The temporary disturbance of appetite was probably due to confinement, and not to the lead. At no time did any palsy, colic or diarrhoea appear, and the animal remained in a nearly normal state until a few days before death, when epileptiform convulsions appeared, which closed its career. An elaborate chemical analysis yielded the following results:

12 g. of brain tissue	No trace of lead.
29 g. of liver tissue	A trace of lead.
21 g. of kidney tissue	A trace of lead.
55 g. of muscular tissue	0.01 g. of lead.
43.5 g. of bone tissue	A trace of lead.
Urine	Decided traces.

The fæces contained a relatively notable amount of lead. A small quantity, corresponding to the amount absorbed, was excreted with the urine, while a relatively large amount passed out as an insoluble sulphide of lead with the fæces. The explanation of the phenomena observed during the life of the animal are to be found in a disturbance of the central nervous system, and as there were no decided changes in the kidney, nor was albuminuria present, the constantly observed convulsions cannot be uræmic, but are probably due to a direct action of the lead. They often noted colic and diarrhoea which occurs in dogs cannot be explained in feeding experiments by an excitation of the intestinal ganglia, because the irritative action of the drug upon the mucous membrane of the bowel is not excluded in this method of experimentation, although experience derived from cases occurring in man, and from the experiments of Hamack, make this a probable explanation. No doubt very small amounts of lead absorbed would be sufficient to cause the convulsions, but in order that any decided quantity

should be taken up it is necessary that greater amounts should be present in the alimentary canal, and when such accumulation does take place, all the symptoms of poisoning come on rapidly, which, in the dog, manifest themselves as epileptiform convulsions.

The typical lead colic, the palsies, the mooted question whether these palsies are nervous or muscular in origin, are unexplained by feeding experiments with dogs, and indeed do not occur. The only phenomena common to both man and dog in this experiment are the convulsions, which are rarely present in human beings.

INEBRIETY FROM OBSCURE PHYSICAL CAUSES.

T. D. Crothers, M. D., in the *Medical Record*, May 19, 1883, presents some cases under the above title, for the purpose of an argument for a medical and scientific study of inebriety, above the levels of the theories of reformers and clergymen.

A. B., a physician of good medical and general education, in active lucrative practice for ten years, at this time was attacked by pneumonia following exposure to cold, had a long convalescence, violent heart palpitations. He began the use of spirits for nervousness, found relief; from this he went entirely "to the dogs," and finally was sent to prison for six months, served out his time, resumed practice, improved in health, and is now temperate. The pneumonia was probably followed by acute asystolism, for which spirits were a sedative.

C. O., a Yale graduate, demonstrator of a medical college and finally full professor. While writing a book he used brandy and ether at night for their sedative effect; inebriety in this case begun from neurasthenia and heart exhaustion. Had his malady been recognized in its early stage and properly treated, a life of great usefulness might have been preserved.

A number of other cases are cited, all from some physical cause—hemorrhage in one case, sexual intercourse in another, and so on *ad infinitum*. "It is no moral cowardice, but simply absence of sufficient evidence and study of cases, that prevents many physicians from urging that inebriety

is always a disease." Like the lunatic, the malady from which he suffers may only affect some parts of the brain, giving the appearance to the casual observer of strength to control and ability to realize all the relations of life.

"Inebriety is not a vice or crime, but a disease to be cured by treatment. The question of to-day is, What shall we do? What means and remedies can we apply that will reach these cases?"

ANCIENT EGYPTIAN MEDICINE.

At Leipsic, M. Franz Vönig recently delivered a lecture on the practice of medicine in ancient Egypt.

Disease and death were regarded as manifestations of the anger of the gods, to be appeased by prayers and sacrifices. Isis sent disease and also provided the remedy; she raised from the grave her son Horos and instructed him in the art; patients were carried to her temples, and she informed them during sleep what was necessary for their cure. Thoth, the Egyptian Hermes, was physician as well as divinity. He owed his name, which signifies column, to having inscribed his precepts on columns of stone; the priests averred that they had copied these precepts after the discovery of papyrus, and such was the origin of the Hermetic books.

The physicians formed a sacred corporation paid by the State. The most famous of their schools was at Heliopolis.

They were specialists, and the patient first consulted the priests, who, after consideration of the case, sent him to the physician they thought most learned in the particular disease. The physician's services were gratuitous, but rich patients often made handsome donations.

The medical doctrine was considered holy, and no change could be made under pain of death. In conjunction with the regular body of physicians, there existed a veritable legion of divines, empirics, and sorcerers, analogous to those mentioned by Moses. Eber's papyrus, the most considerable existing monument of Egyptian medicine, contains many puerile receipts, it is true; but it also speaks of many rational forms of medication, and mentions drugs which have remained up to the present time in *materia medica*.

NOTES AND COMMENTS.

Mechanical Treatment of Disease of the Stomach.

In dilatation there is usually some obstruction, which hinders the ready egress of the food from the stomach into the intestines, this being most frequently a narrowing of the pylorus. Sometimes the obstruction is followed by an hypertrophy of the muscular coats of the stomach, as hypertrophy of the left ventricle follows aortic stenosis. But this is of rare occurrence, dilatation being the common sequence to obstruction. As a result more food enters the viscus than leaves it, the food stagnates, decomposition takes place, sarcinae develop, and the mucous membrane, being constantly bathed with this irritating solution, soon takes on inflammation. This inflammatory process is not confined to this layer alone, but also, through contiguity of tissue affects the muscular coats, thereby causing a weakening of that enveloping membrane and gradual dilatation.

Dr. J. L. Krouse contributes a practical article on this subject to the *Cinn. Lan. and Clinic*, June 9, 1883. Oser's tube, which he employs, is exceedingly soft, and may be considered entirely innocuous. It is a tube, two metres in length, made of soft red rubber, having a single lumen of 9.13 mm. in diameter. This tube cannot be so easily introduced as the hard stomach tube, which, from its consistency, readily overcomes all obstacles, but requires the aid of the patient as well.

It is introduced into the pharynx and the patient is told to swallow; then through the combined effort of pushing from without and the swallowing of the patient, the instrument is carried into the stomach.

Having passed the instrument into the stomach, the outer end is elevated, and water (medicated or not) is allowed to enter until the desired amount has passed; it is then lowered and the tube, now acting as a siphon, removes the contents of the stomach. In this way the contents can be removed without injury to the lining membrane, and remedial agents can be applied directly to the diseased mucous surface.

The mechanical treatment may then be said to be of some benefit in many cases of stomach trouble, of decided value in acute affections of the organ, and in cases of dilatation the best treatment known.

Remarkable Monstrosity.

In the *Brit. Med. Jour.*, June 2, 1883, Dr. Mulvaney writes:

"On November 2, my late partner, Dr. H. C. Linden, sent for me to a case of primipara, aged 28, who had been some hours in labor. It was a breech presentation, and favorable progress had been made until the pelvic outlet was reached. There the head became jammed tightly, and, during the next two hours did not advance in the smallest degree. As the pains were ceasing, notwithstanding the administration of ergot, it became necessary to deliver instrumentally. Several attempts at extraction by forceps proved futile, and, as exhaustion was threatened, the blunt hook was employed, and, after an hour's hard work, delivery was accomplished. The child was a full-grown, anencephaloid male; life was extinct but very recently. The bones of the face were normally developed, but there was no calvarium. The cerebral substance was wanting, and its place was filled with bloody serum and a material which looked like a placenta; to this the placenta proper was attached by its membranes. It was very large, measuring $6\frac{1}{2}$ by $3\frac{1}{2}$ in., and was deeply fissured at its anterior third. Two abortive cerebellar lobes were present. At the upper portion of the spine there was an opening into the spinal canal, from which sprang a lobulated body. Four cords were present, three focussing at this point; one running from the placentoid cerebral substance, the other from the placenta, and the third joining the cord proper a few inches from the umbilicus; the fourth passed from the placenta in the usual way, and presented a slight degree of fatty degeneration. It was rather large. The other cords had undergone fatty degeneration to a great extent. Being rather pressed for time, we were obliged to be content with a cursory examination.

To Control Hemorrhage in Hip-joint Amputation.

The abdominal tourniquet is a cumbersome apparatus, and we hail with pleasure the following ingenious device of Dr. Jordan Lloyd (*Lancet*, May 26, 1883):

A strip of black india-rubber bandage about two yards long is to be doubled and passed between the thighs, its centre lying between the tuber ischii of the side to be operated on and the anus. A common calico thigh roller must next be laid lengthwise over the external iliac artery. The ends of the rubber are now to be firmly and steadily drawn in a direction upwards and outwards, one in front and one behind, to a point above the centre of the iliac crest of the same side. They must be pulled tight enough to check pulsation in the femoral artery. The front part of the band

passing across the compress occludes the external iliac, and runs parallel to and above Poupart's ligament. The back half of the band runs across the great sacro-sciatic notch, and, by compressing the vessels passing through it, prevents bleeding from the branches of the internal iliac artery. The ends of the bandage thus tightened must be held by the hand of an assistant placed just above the centre of the iliac crest, the back of the hand being against the surface of the patient's body. It is a good plan to pass the elastic over a slip of wood held in the palm of the hand, so as to diminish the pain attending the prolonged pressure of the rubber bandage. In this way an elastic tourniquet is made to encircle one of the innominate bones, checking the whole blood supply to the lower extremity.

A Case of Nephrectomy for Medullary Carcinoma and Partial Cholecystectomy for Calculus, in the Same Subject.

Dr. S. W. Gross reports a case in the *Med. News*, June 9, 1883. The result was fatal. He furnishes the following statistics on the subject:

The kidney has been extirpated for sarcoma and carcinoma twenty-two times, the operators having been Czerny in five cases, Kocher in two cases, and Wolcott, Martin, Langenbeck, Jessop, Hueter, Lossen, Barker, Byford, Bardenheuer, Whitehead, Hicquet, Luecke, Adams, Thornton, and myself, respectively, in one case. The nature of the tumor is recorded as sarcoma of the kidney in 14; carcinoma of the kidney in 3; encephaloid of the kidney in 3; sarcoma of the capsule of the kidney in 1; and perinephritic sarcoma in 1. Of the 22 cases, 1 was under treatment at the date of the report, 9 recovered, and 12, or 57.14 per cent., died. Fifteen of the operations were by the abdominal incision, of which 5 recovered, and 10 died; and 7 were examples of the lumbar incision, of which 4 recovered, 2 died, and 1 was still under treatment. The causes of death were primary hemorrhage in 2; collapse ten hours after furious bleeding in 1; peritonitis in 3; septic peritonitis in 1; and shock, pulmonary embolism, uræmia, septicæmia and exhaustion from purulent discharge, each in 1.

Poisoning by Sulphate of Copper.

From the *Med. Times and Gaz.*, May 19, 1883, we learn that a case is related in the *Allg. Wien. Med. Zeit.* (March 20), in which a strong man, twenty-two years of age, swallowed, for the purpose of suicide, an enormous quantity of sulphate of copper (120 grammes in about 150 grammes of

some spirituous liquor). He was seized with violent pain in the stomach and vomiting, and afterwards with tetanic spasms of the extremities. The vomiting continued abundantly, so that neither emetics nor stomach-pump were needed. The spasms of the extremities continued for some days at intervals, but in a day or two his appetite returned, and by the sixth day the muscular pains having ceased, he would have been able to walk about but for the weakness of the extremities, which were in a state of paræsthesia. In a fortnight he was perfectly well, and left the hospital.

The Oxytocic Action of Quinine.

Mr. Hartigan, M. K. Q. C. P., of Hong Kong, writes in the *Brit. Med. Jour.*, June 2, 1883:

"In three different cases I have had on several occasions to discontinue the use of quinine, because it brought on 'labor-pains,' though the doses used were small, varying from three to five grains. In one of these, during a previous pregnancy, another medical man used quinine, and discontinued it for a similar reason. All three were in fair general health, suffering only from slight malarious fever, and had never aborted. One case has come under my notice in which abortion took place, without apparent cause, after a ten-grain dose of quinine. The patient was the mother of several children, had not previously aborted, was in good health, and took the quinine to cure facial neuralgia. I know of another case of abortion occurring under similar circumstances after quinine. This action of the drug is known to the Chinese, who take it (I am told with success) for the purpose of producing abortion, following its use by copious draughts of hot tea. I have myself heard a Chinese 'amah' (i. e., female servant) recommend it. Quinine, certainly in some cases, increases the menstrual flow."

Succus Conii in Choreæ.

Mr. J. F. W. Siek reports in the *Lancet*, May 26, 1883, some cases of chorea relieved by succus conii. These cases seemed to show:

1. That the drug, to be of any service, must be given in large doses.

2. That its action must be sustained by frequent repetitions of the dose at short intervals. The uncertainty of the action of given specimens of succus conii necessitates great care in its administration, and militates against its general adoption. But cases in which neither chloral nor morphia have any effect may arise, and in which, as in the above, succus conii may prove efficacious.

SPECIAL REPORT.

Bacillus Tuberculosis.

FIG. 1. Micrococci, magnified 950 times.



FIG. 2. Bacilli tuberculosis, magnified 2,350 times.

So voluminous and so conflicting has now become our printed evidence concerning the properties of this bacillus, that it behooves us to call a halt, and for a time look over the field of battle and see what has been adduced of a reliable nature concerning it.

The whole question is whether *this bacillus is the real cause of tuberculosis or not.*

Dr. Koch, of Berlin, heads the list of affirmatives, which includes a large number of eminent men.

Klebs, of Zurich, Toussaint, of Toulouse, and Schuler, of Berlin, are the leaders of the negatives.

Koch bases his belief on the results of numerous experiments by which he has demonstrated to his own satisfaction and to that of a very large following, that this special bacillus, *separated from all extraneous matter*, is capable of producing tuberculosis when inoculated into the body of an animal.

The broad ground taken by the opponents of his view is that when he has succeeded in producing tuberculosis by his inoculations, he has introduced some other element of cause, besides the bacilli, and some would seem to hold that the simple inoculation of foreign bodies, possessing no specificity whatsoever, is capable of producing tuberculosis, while still others claim (Formad as the leader) that the conditions necessary for the development of tuberculosis are to be found in a modification of the anatomy of the victim, viz: in a narrowing of the lymph spaces.

That we have advanced much by these recent researches, all are ready to admit; that we may intelligently proceed further, a resumé of what we know or of how we stand will prove valuable.

We will divide the investigations into two classes: 1st. Those favoring the specificity of the bacilli; and, 2. Those opposed to it.

The most distinguished advocate of the first class is Koch himself, who, in a paper published in the *Berliner Klin. Woch.*, No. 15, 1882, stated that a peculiar kind of bacillus was constantly present in tubercle, natural or artificial, and in all animals; and he was able to cultivate this bacillus, and by inoculation with this cultivated organism to produce the same disease as follows the inoculation of tuberculous material.

Koch's method of cultivation is thus described by Mr. W. Watson Cheyne, who witnessed it in Koch's laboratory:

He solidifies blood-serum at such a temperature as to leave the serum as transparent as possible. The serum is put into purified test-tubes plugged with cotton wool, and for several days in succession (usually six) these tubes are kept at the temperature of 58° C. for an hour. At the end of that time the tubes are laid obliquely in the incubator so as to have a large surface for inoculation, and kept at a temperature of 65° C., or a little higher, till solidification is complete. This occurs in a few hours. The tubes are then kept for some days till it is certain that the serum has been thoroughly sterilized, and then they are ready for use. Koch generally employs sheep serum.

In inoculating from animals immediately after death the skin is dissected back, and it is well to wet the skin with a bichloride of mercury solution to prevent the hairs flying about. A large number of knives, forceps, and scissors are purified by heat and allowed to cool, and every fresh cut is made with a fresh instrument, which is immediately afterwards repurified by heat. The organ to be used for the experiment being exposed, tubercles are clipped out and introduced into the serum-tubes by platinum wires purified by heat, and then crushed out as much as possible. Tubes so inoculated are placed in the incubator, and if development occurs, small opaque masses will be seen to appear at various points in about ten days. These masses gradually increase in size, and after a time are picked up and spread out on fresh serum, the fresh masses which form being again treated in the same way, and so on. By proceeding in this manner, all trace of original tuberculous material other than the bacilli is soon lost.

In inoculating from the lung of an animal which has died some hours previously (man or cow) the procedure is somewhat different. The lung is removed from the body and the surface washed with bichloride of mercury solution. A series of cuts are then made with pure knives throughout the organ, till it may be supposed

that a pure portion has been got, and then tubes are inoculated in the same way as before.

For purposes of injection of the cultivation into animals, special syringes are used. These consist of a glass tube, on each end of which the thread of a screw is cut, and the metal fittings are thus screwed directly on to the glass. The piston is graduated, and the bulbous end is hollowed in the middle and does not fill up the calibre of the tube. A sufficient amount of cotton thread is wrapped around this end of the piston to make it fit the tube accurately. The washers are made of thin pieces of cork. After each injection the cotton thread and the washers are removed and the syringe washed. Before use, fresh washers and fresh thread are arranged, and the whole is purified by heat.

A tube of serum on which bacilli are growing being taken, the surface is scraped with a heated platinum wire, and the masses of bacilli ground up in a purified mortar with a little boiled distilled water, so as to break up the masses. This material is then injected.

In order that the bacilli may be detected under the microscope, it is necessary that they be colored. The *Berlin Klin. Woch.*, No. 45, 1882, tells us that the first method, that described by Koch, was at follows; Dry a small piece of sputum on a glass-square, place it in a weak alkaline methylen bluesolution for twenty-four hours, and then wash over the sputum with vesuvine. This method was soon replaced by that recommended by Ehrlich, which consisted in: After having dried the sputum on the glass-square, it was colored with methyl violet and aniline water. Aniline water is made by adding 3 parts of aniline oil to 100 parts distilled water, shaking well and filtering. The methyl blue solution is concentrated, alcoholic, and so much of it is added to the aniline water in a watch-glass that opalescence appears. The preparation remains $\frac{1}{4}$ to $\frac{1}{2}$ hour in this solution, after which it is placed in nitric acid (1), water (2), and then impregnated with Bismarck brown. In the place of methyl violet, Professor Fränkel uses fuchsin, afterwards coloring with methylen blue, and prefers this coloring to any yet devised, as preparations thus colored retain their color longer, and admit of demonstration by artificial light. Baumgarten's method consists in treating sputum dried on a cover-glass with caustic potash (33 per cent. sol. to watch-glass of water), and is considered highly unsatisfactory, as the bacilli are not all colored, therefore difficult to find. This last method is not to be recommended.

Finding the staining methods of Koch, Aufrecht, Ehrlich, Balmer and Fräntzel, Pinolini and Negri, Rindfleisch, etc., too complicated and slow, Dr. F. Kh. Zenkevitch, of Kieff, recommends (*Mediz. Obozr.*, Feb., 1883,) the following plan as simple, quick, and effective. A lump of sputa is crushed and rubbed between two cover-glasses; then the glasses are separated and allowed to dry in the air; after warming over the flame until the material becomes slightly brownish, the preparation is washed in water and put for one or two minutes in the staining fluid, which is a saturated solution of fuchsin in aniline water (2 cc. of aniline to 50 cc. of water. Then the preparation is again washed in water, and placed for one or two minutes in alcohol containing nitric acid (one drop of acid to each 10 cc. of alcohol). It remains now to once more wash it in water, dry in the air, warm over flame, and mount it in Canada balsam. The author states that this process of preparation makes the bacilli as clearly and brightly visible as Ehrlich's (or any other) method does. According to his description, a free bacillus, as a rule, has a length equal to one-fourth or one-half of the diameter of a red blood-corpuscle, the longest specimens being equal to three-fourths or even to the whole diameter. The longest rods contain from three to five intensely stained round granules (spores). Fuchsin stains also free spores, which are seen either isolated or grouped in colonies. The examination of the colonial spores allows all the stages of development of the microphyte to be traced, from the form of granule to that of rod. Like Balmer and Fräntzel, Marchiafava, and Celli, Professor Dreschfeld, Kowalski (*Wiener Med. Presse*, 1883, No. 8), Giacomi (*Fortschritte der Medicin*, 1883, No. 5), Voblyi, and others, Dr. Zenkevitch found the bacillus only in phthisis (in advanced and incipient alike.) No rods were detected in the sputa of the patients with acute or chronic bronchitis, or emphysema, or croupous pneumonia.

The tubercle bacilli vary considerably in length, the longest being about the $\frac{1}{1000}$ th of an inch. They are narrow (about $\frac{1}{4}$ th or $\frac{1}{5}$ th of their length), more or less rounded at the ends, and they generally present a sort of beaded appearance, clear spots with intermediate stained parts, the rod outside the clear spots being also stained. The number of beads in a single rod varies from four to eight, and is on an average six. The rods are generally straight, but they are not uncommonly more or less curved. In tissue they are generally found singly, or sometimes in pairs, united at their ends or stuck together side by side. At

other times there are two or three lying across each other, the axis of all being more or less in the same direction.

We have now traced the whole process of Koch's experiments, and have so clearly placed the matter before our readers that any one can carry them out. Remember that absolute cleanliness and absolute disinfection of all instruments used, is an absolute essential to the value of the experiment.

One of Koch's most ardent supporters is Mr. W. Watson Cheyne, who contributes an elaborate article on "*Research on the Relation of Micro-organisms to Tuberculosis*," to the *Practitioner* for April, 1883. He has observed Koch's experiments, and he has experimented himself, and he firmly gives his adherence to the specificity of the bacilli.

He has inoculated a large number of animals with various foreign substances, among which may be enumerated cotton thread, worsted thread, vaccine lymph (human and bovine), cork, and pus, and he failed in all instances to produce tubercle.

Koch cultivates these bacilli through many generations, and if he cultivates them in *sealed* tubes, the last proves as powerful as the first, but should the growing bacilli be exposed to the air, they gradually lose their specificity, until they finally become impotent to produce tuberculosis; which sterilizing action of the atmosphere is probably the reason that we do not *all* have tuberculosis, if Koch's view concerning its cause is correct.

Here then we have, in two sentences, the arguments which Koch and his adherents claim support their views:

1. That these bacilli are always found in tubercle, whether naturally or artificially produced.
2. That these bacilli, isolated from *all other matter*, will produce tubercle.

Two very strong, logical, and seemingly irrefutable arguments.

But let us see what the opponents of this view say.

In 1877 Professor Klebs published a paper in which he stated that he had succeeded in cultivating an organism from tuberculous material with which he was able to produce tuberculosis, and he looked on this organism as the cause of the disease. He gave it the name of "*Monas tuberculosis*." His method of cultivation was what he termed "*fractionirte Cultur*," i. e. if a drop of infective fluid is mixed with 50 ccm. of a cultivating solution it is diluted 1,100 times, and if a drop of this is put again into 50 ccm. the

original material is now diluted 1,110,000 times, and so on. In this way he made cultivations from artificial tuberculosis in white of egg, and found that the egg became turbid in two or three days from the development of micrococci and short rods about 2 mm. in length. These rods possessed active movement, but it was the micrococci and not the rods which he looked on as the cause of the disease. He also found, on examining crushed tubercles, that there were numbers of dancing bodies, the movements of which were more than molecular, and he states that they are found in advance of the tubercle and cause the tubercle. He only mentions one experiment, where a small quantity of the cultivation (third generation) obtained from a guinea-pig inoculated with human tuberculosis was injected into the abdominal cavity of a cat. The animal was killed a month later, and the peritoneum was found to contain tubercular nodules.

Here then we see that Klebs differs from Koch, inasmuch as he claims that *micrococci* and not *bacilli* are the cause of tuberculosis. That he still holds this view is evidenced by the following letter from him to Mr. W. Watson Cheyne, under date of January 18, 1883:

"The question as to the organism of tubercle turns at the present moment on the decision of the preliminary question whether the bacilli described by Koch, those rod-like bodies which hold fast crystallized acid fuchsin even when subjected to the action of mineral acids, are to be regarded as the carriers of the virus of the disease. I must in the first place state, with regard to these bodies, that developmental processes have not as yet been demonstrated in them; their multiplication on cultivations would not disprove their inorganic nature. Although I believe that they are organisms, the proof of it must yet be furnished by the demonstration of phenomena of life on their part, such as movement or division under the eye of the observer. I think it proper to leave this task to their discoverer. On the other hand, I can definitely state that even in the purest cultivations (Koch's own) there are always present finely granular masses which appear to possess the characters of micrococci. The same bodies also appear in cultivations on microscopic slides. They may, since they are present in cultivations which are active, be the carriers of the virus just as much as the rods which can be stained, and to which alone Koch attributes that property. It is possible that these forms are different stages of development of the same organism, but it is also possi-

ble that the rods are of an inorganic nature, just as one finds crystals in the form of rods in many cultivations, as, for example, the characteristic albuminoid crystals in cultivations of monads on isinglass jelly.

"This question cannot be regarded as settled at present; it requires further investigations. Nevertheless, it seemed to me certain that the development of tuberculosis by a virus capable of self-multiplication, i. e., an organism, as first asserted by me as a result of experiments in which active cultivations were obtained, has received an important confirmation by Koch's experiments, and further, the diagnostic meaning of Koch's rods seems to me to be of great value."

While, therefore, he differs from Koch as to the nature of the parasite, he yet agrees with him as to the parasitical causation of tuberculosis.

Having now detailed the method by which the bacilli may be discovered, and premising that the majority of the investigators in the profession to-day accept Koch's view, let us see the practical value of his conclusions.

Drs. Dettweiler and Meissen (*Berliner Klin. Wochens.*, Feb. 12,) observe that, following the most suitable methods of coloring, they have undertaken the examination of the sputa of phthisical patients with a view to throwing light upon the relations of the bacilli to the collective clinical phenomena of chronic phthisis. The results of their researches are here given.

The investigation included eighty-seven cases, in which the diagnosis in various cases of phthisis was established by the presence of bacilli and elastic fibres. The dyes employed for the demonstration of the bacilli were methyl-violet and aniline, according to the directions laid down by Ehrlich. For the elastic fibres, simple pressure of the covering-glass sufficed to show these.

Of the eighty-seven cases, bacilli were found in greater or less abundance, in the expectoration in eighty-five cases, or 97.7 per cent. In the remaining two, although the expectoration was repeatedly and carefully examined, and although all the most unmistakable signs of phthisis were present, neither bacilli nor elastic tissue were discovered in the sputum.

The morning expectoration was considered the most suitable for examination, as having less mucus than that of the after part of the day.

The relation of the bacilli to the stage and course of the disease may be stated as follows: In acute cases, with pyrexia, extensive destruction of tissue, and proportionate expectoration, the bacilli are always found in great numbers. In

incipient cases they are sparse. It must not, however, be assumed that the more numerous the bacilli, the more severe the disease. The reverse has been observed. Of eighty-five cases in which bacilli were found, fifty were apyretic and thirty-five pyretic. In the former, the bacilli were abundant in fourteen and sparse in thirty-six cases. Of the thirty-five with notable pyrexia, in eighteen the bacilli were numerous and seventeen moderately so. The percentage was thus 28 in the apyretic and 51 in the pyretic.

Additional corroborative evidence of the relation between cause and effect in reference to the bacilli is offered by the following: Dr. Victor Babes (*Orvosi Hetilap*, Feb. 18, 1883; *New York Med. Record*, March 24, 1883), has found Koch's bacilli in the urine of two cases in which post-mortem examination showed tubercular disease of the kidneys and bladder. In a third case in which Professor Verneuil suspected tubercular disease of the urinary apparatus, the bacillus was found.

Dr. Charney Smith (*Brit. Med. Jour.*, January 20, 1883), has succeeded in demonstrating bacilli in the breath of consumptive patients, by making them breathe through two thin sheets of gun-cotton placed in the outer compartment of an ordinary "pepper duster" respirator (whatever that may be). This layer of cotton is then converted into collodion, run in thin films on slides, and stained by Gibbes' or by Ehrlich's method.

Dr. T. Mitchell Prudden (*New York Med. Record*, April 14, 1883), has carefully examined the sputa in fifty-eight cases of phthisis, of which ten were confirmed by *post mortem* examination. Bacilli were present in forty-six, absent in twelve. Of the forty-six, physical signs of cavities existed in forty-one; of the twelve negative cases, physical signs of cavities existed in four only; in one, on *post mortem* examination, no cavities were found, but myriads of bacilli were found embedded in dense cheesy nodules in the lungs. The presence of spore-bearing bacilli bore no relation to the size of the cavity or the gravity of the disease. In six cases of chronic bronchitis, two cases of lobar pneumonia, and one case of lobular pneumonia, no bacilli were found in the sputa. Of nine cases of acute miliary tuberculosis, bacilli were found in eight. The case in which they were absent was one of acute general tuberculosis, and they were looked for in the tubercles of the lung, liver, kidney, pia mater, and ependyma of the lateral ventricles. Bacilli were found in six cases of acute pneumonic phthisis, in thirteen cases of chronic phthisis, in two cases of localized primary

tubercular pleurisy, in eight out of nine cases of tubercular ulcers of the intestine, and in one case of tubercular ulcer of the larynx.

Dr. N. I. Voblyi, who carried out his investigations at Professor V. A. Manassein's clinic, examined (*Vratch*, 1883, No. 7), the sputa of fifty-three patients. Thirty-five of them were phthisical (all febrile); eighteen suffered from other lung-diseases (four cases of chronic bronchitis, two of croupous pneumonia, four of emphysema, two of bronchitis in typhus, two of bronchitis in relapsing fever, four of bronchitis in typhoid). The author failed to find even a single bacillus in any of very numerous specimens taken from non-phthisical subjects, while he succeeded in detecting more or less abundant Koch's rods in the sputa from all the thirty-five phthisical cases. He found the micro-organisms even in the very scanty foamy non-purulent expectoration of patients who showed, of physical signs, only slight dullness over one apex, and some roughening of expiration without any râles. [In all of them, some weeks afterwards, dullness increased and fine râles appeared. One of these patients, in whom the author has diagnosed phthisis, mainly in view of the presence of bacilli in his sputa, and who has sought his dismissal from Crown service, saw his wish fulfilled. This is the first instance of an official's dismissal in Russia on the account of Koch's rods.] Such facts lead the author to differ from Professor Lichtheim's view of bacilli occurring only in abundant purulent sputa (*Fortschritte der Medicin*, January 1, 1883). From his observations, as well as from the study of those published by Koch, Ehrlich, Guttman, Negri and Pinolini (*vide the London Medical Record*, January, 1883, p. 25), Balmer and Fräntzel, Chiari, Pfeiffer, Lichtheim, Ziehl, and D'Espine, he draws the following conclusions:

1. The presence of bacilli in the sputa of febrile patients undoubtedly points to an incipient destructive process in the lungs, however slight the physical signs may be.

2. The absence of bacilli in the sputa does not exclude possibility of the pulmonary affection (as the cases of Ziehl and Lichtheim show).

3. The bacilli have no prognostic value, since rapidity of the development of phthisis may depend on a simultaneous affection of other organs beside the lungs. Dr. Voblyi at first tried to stain the bacilli after four methods (Ehrlich's, Balmer and Fräntzel's, Rindfleisch's, and Schill's); afterwards he employed almost exclusively Balmer and Fräntzel's system (this is a modification of Ehrlich's plan; see the *Berliner Klin Wochens.*,

1882, No. 45), which he recognizes as the best of all. [See, also, papers on the tubercle-bacillus in the *London Medical Record*, January, 1883, p. 24 (Formad, and Marchiafavi and Celli); March, p. 91 (Balogh); in the *Brit. Med. Jour.*, 1882, October 14, p. 735 (G. A. Heron and H. Gibbes); October 21, p. 766 (H. Gibbes); 1883, January 20, p. 105 (Charnley Smith); February 3, p. 193 (T. Henry Green); February 17, pp. 304-6 (Dreschfeld); March 17, p. 507 (W. Watson Cheyne); March 24, p. 565 (Purser); and in the *Lancet*, 1883, February 3, p. 188-90 (Heron)].

At the Académie de Médecine, M. Cornil read a paper on the rôle of bacilli in tuberculosis, in which an account was given of the result of forty cases minutely examined for the microbe. In a case of tubercular meningitis a great quantity of bacilli were discovered, as well as in a tubercular affection of the peritoneum, where the granulations were the seat of a large number of them. In two cases of pulmonary phthisis several were found at the root of the lungs. Tubercular affections of the kidneys furnished in four cases abundant microbes. In conclusion, M. Cornil said that the result of his researches would admit of three divisions: First, that in which the considerable number of bacilli of tuberculosis explains the genesis of the lesions which constitute that affection. The propagation of these micro-organisms by the blood and lymphatic vessels was fully proved by their being in the interior of the vessels. This class of facts is entirely in accord with the experiments of Koch, who, by injecting the bacteria of tuberculosis into different animals reproduced constantly that disease. In second series of facts the bacilli characteristic of tuberculosis are by no means numerous, but there exists always one or several in the giant cells, that is to say, in the midst of the tuberculous granulations. In a third class of cases, which referred to chronic tuberculosis, the bacilli were only found in the walls of the cavities and the ulcerated bronchi.

In the *Medical Record*, June 16, 1883, Dr. T. Mitchell Prudden says: It is already practically established that in the larger proportion, if not in all cases of phthisis in which there is evidence of the breaking down of tuberculous tissue, and in many cases in which physical signs are entirely negative, the tubercle bacilli may be found in the sputum, if sufficient care and patience and skill be exercised, and that they do not occur in non-tuberculous sputum. It is further demonstrated that the bacilli may be found in the feces in many cases suffering from tubercular ulcers of the intestine, and in the urine in some cases of tuber-

culosis of the genito-urinary tract. It is furthermore proven that the examination of material from the surface of tubercular ulcers of accessible respiratory passages may often determine their specific character. While at present of much practical importance, rapidly accumulating data lead to the belief that increased definiteness in the estimate of the value of such examinations may be confidently expected.

Towards the conclusion of his article in the *Practitioner* (already quoted) Mr. W. Watson Cheyne says: A consideration of all the facts has led me to the conclusion that tuberculous processes in the lungs are due to the tubercle bacilli, and, so far as I know, to them only.

Thus, then, we have presented in brief space the leading features concerning the bacillus tuberculosis. The evidence adduced would seem to tend strongly towards according to this bacillus a causative power in the production of tuberculosis; whether it really possesses this property or not, one thing seems certain, viz., that it possesses considerable diagnostic significance. Great strides will be made in the determination of its accurate position in etiology, if every physician will make himself an investigator of the subject. There are two points upon which we need voluminous and accurate evidence before we can reach definite conclusions:

1st. Are the bacilli to be found in *all* cases of tuberculosis?

2d. Are the bacilli absent in those in whom tuberculosis does not exist, in either an active or latent condition?

If these two questions can be answered in the affirmative, in a large number of instances, then, (other things being equal) can we justly attribute a causative power to the bacillus tuberculosis.

CORRESPONDENCE.

Professor Germain See and Liebermeister on Calomel, Iodine, and Cold Bath in Typhoid Fever.

EDS. MED. AND SURG. REPORTER:—

In the interesting lecture by Professor Sée, on the treatment of typhoid fever, recently published in the *MEDICAL AND SURGICAL REPORTER* (May 5, and June 9, 1883), in which he traverses the methods of cure instituted with reference to the various theories of its origin, certain teachings and conclusions are ascribed to Liebermeister in particular, which do not seem to be in accord with what is contained in his article on this subject in Ziemssen's *Cyclopædia*. Under "The Antiseptic Method," Professor Sée thus delivers himself: "Iodine, to which Binz has recently called attention as a powerful antiseptic of the laboratory;

Liebermeister and Vulpian have recently tried it without success." Whether Liebermeister's article published in Germany varies from the one incorporated in the great work referred to, I cannot tell: but if Sée's views are derived from the latter, it indicates a reading not sufficiently careful for the appreciation of the result of the trial upon the mind of the German, as there recorded. I quote: "In more than 200 cases in which I used it, the iodine did not produce any marked effect on the course of the fever. Neither the diarrhoea nor the intestinal symptoms generally seemed in any degree the worse, and in some cases they seemed improved thereby. No effect was apparent on the mucous membrane of the respiratory apparatus. Coryza never occurred, except in one very light abortive case; neither was an unequivocal iodine eruption ever seen. The temperature showed no well-marked departure from the ordinary course. In fact, looking at the individual cases as they occurred, it was impossible to recognize any distinct effect from the iodine. BUT THE MORTALITY WAS NOTABLY LESS than in those cases treated at the same time, and in all other respects in precisely the same way, without the use of the iodine." If this last may be classed as a "distinct effect," it is one that most physicians prefer should follow the administration of medicine in any disease. The italics used above are added to the original.

Of another drug included with the antiseptics, Professor Sée speaks thus: "Mercurials: recommended by Lerres (Lesser?). This medication still survives in the calomel treatment of Wunderlich, Liebermeister, and Hallopeau." This last reference elicited a note from the translator.

In a case treated by myself, a report of which was published in the *MEDICAL AND SURGICAL REPORTER*, Vol. xlvii., p. 421, I tried the mercury and iodine in combination, as the protiodide of mercury, giving one-twelfth gr. three times a day. The effect on the fever could not be estimated, but the secretions were manifestly improved by its use, the coating upon the tongue becoming moister and showing inclination to dissolve and loosen.

Professor Sée is not more happy in his reference to the temperature of the baths recommended by Liebermeister in this disease, as will appear by quotations from each, respectively: "You may, if you like," says professor Sée, "cool down the water to 10 or 12 degrees C. (very near the freezing point) as Liebermeister recommends, and you will, without doubt, refrigerate your patient, but animal heat may never return."

Liebermeister's record in Ziemssen's *Cyclopædia*, Vol. 1. p. 208, is as follows: "For adult patients the full-length cold bath, of 68° Fahr. or lower, is to be preferred. The same water can be used for several successive baths for the same patient; the bath-tub remains standing full, and the water, representing about the temperature of the room, answers the purpose, without change. The duration of the bath should be about ten minutes. If prolonged much beyond that it becomes unpleasant to the patient, and may even prove a damage to him. If feeble persons are much affected by the bath, remaining cold and collapsed for a long time, the duration should be reduced to seven, or even to five minutes. * * In dealing with very feeble patients, one may begin with baths of a higher temperature, say 75°, although

of course these will produce less effect. A method especially to be recommended in such cases, if the surroundings permit, is that recommended by Ziemssen, of baths gradually cooled down, beginning with about 95°C, and adding cold water gradually until the temperature is reduced to 72°C, or below. These baths should be of longer duration."

E. T. BLACKWELL, M. D.

Puterson, N. J.

NEWS AND MISCELLANY.

American Neurological Association.

At the recent meeting, held in New York, June 21st, 22d and 23d, the following papers were read: "A contribution to traumatic neuritis, illustrated by a case following dislocation of the uterus," by Dr. Morton, of New York; "Notes on the use of hydrobromic acid in nervous affections," by Dr. C. L. Dana, of New York; "Lead-poisoning simulating other forms of disease, and on the danger of mistaking bismuth for lead in the analysis of the urine," by Dr. J. J. Putman, of Boston; "A case of general neuralgia," by Dr. J. T. Eskridge, of Philadelphia; "Locomotor ataxia terminating as general paralysis of the insane," by Dr. Charles K. Mills, of Philadelphia; "The excretion of phosphites and phosphorus as connected with mental labor," by Dr. Robert T. Edes, of Boston; "Several cases of locomotor ataxia," by Dr. Webber, of Boston; "A case of tetanoid pseudo-paraplegia," by Dr. Amidon, of New York; "Two anomalous cases of Parkinson's disease," by Dr. Amidon of New York; "Two cases of progressive muscular atrophy," by Dr. Gibney, of New York; "Treatment of scrivener's palsy," by Dr. W. J. Morton, of New York; "A case of locomotor ataxia with return of the reflex," by Dr. G. M. Hammond; "Nutritive alterations in the hand, from pressure of the head of a dislocated humerus in the axilla," by Dr. Miles, of Baltimore; "The brain of a cat lacking the callosum," by Dr. Burt G. Wilder, of Ithaca; "The alleged homology of the carnivorous fissura cruciata with the primatal fissura centralis," by Dr. B. G. Wilder; "Remarks on the treatment of migraine," by Dr. W. J. Morton, of New York; "The relation of syphilis to locomotor ataxia," by Dr. Birdsall; "Note on the treatment of chorea by the sedative galvanization of the brain," by Dr. Dana, of New York; "The removal and preservation of the human brain," by Dr. B. G. Wilder; "Notes on Spanish asylums for the insane," by Dr. Seguin, of New York.

OFFICERS FOR THE ENSUING YEAR.

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New Hampshire Medical Society.

At the ninety-third annual meeting, held in Concord, June 19 and 20, the following papers were read:

"The country practitioner," by Dr. A. H.

Crosby, of Concord; "The treatment of indolent ulcers and carbuncle," by Dr. F. A. Stillings, of Concord; "Colds," by Dr. Wm. T. Smith, of Hanover; "The great work," by Dr. Blaisdell, of Controcook; "Water pollution," by Dr. Watson; "Pulmonary abscess," by Dr. D. S. Adams, of Manchester; "Venesection," by Dr. P. A. Stackpole, of Dover.

OFFICERS FOR THE ENSUING YEAR.

President—John W. Parsons, M. D., of Portsmouth.

Vice-President—John Wheeler, M. D., of Pittsfield.

Treasurer—D. S. Adams, M. D., of Manchester.

Secretary—G. P. Conn, M. D., of Concord.

Minnesota State Medical Society.

At the fifteenth annual meeting, held in Minneapolis, June 19 and 20, the following papers were read: "Annual address," by Dr. P. H. Willard, of Stillwater; "Shock," by Dr. Wheaton, of St. Paul; "Diphtheria," by Dr. Owens; "Case of compound fracture of the ankle," by Dr. Hunter, of Minneapolis; "Functional nervous disease; neurasthenia," by Dr. Riggs, of St. Paul.

OFFICERS FOR THE ENSUING YEAR:

President—Dr. W. L. Lincoln, of Wabashaw.

Vice-Presidents—Dr. E. J. Davis, of Mankato; Dr. Jas. Davenport, of St. Paul; Dr. R. L. Moore, of Spring Valley.

Treasurer—Dr. S. B. Sheardown, of Stockton.

Recording Secretary—Dr. C. H. Boardman, of St. Paul.

Corresponding Secretary—Dr. Clara E. Atkinson, of St. Paul.

Tri-State Medical Society.

The ninth annual meeting of the Tri-State Medical Association will be held in Indianapolis September 18, 19, and 20. The work is already far advanced, and the title of each paper should be sent in at once. Papers must not exceed 25 minutes.

It is also the rule that each physician who registers must be a member of a local or state society in good repute. All such are invited.

Notice of papers or cases to be presented may be sent to the Chairman of the Committee on Programme, Dr. J. L. Thompson, Indianapolis; to the Secretary, Dr. G. W. Burton, Mitchell, Ind.; or to the President, Dr. Wm. Porter, St. Louis.

A Caution.

The following is from the *Weekly Medical Review*, June 23:

A fraud, calling himself R. L. Douglas, and assuming to be the authorized agent of the "Medical Herald Subscription Agency," St. Joseph, Mo., is traveling around the Western States and trying to take cash orders from physicians and druggists for any desired professional journal at ridiculous discounts. He pretends to be deaf and dumb. Drs. Geiger and Hoyt, of the St. Jo Herald, denounce him as a thief and an impostor, and warn the profession against him. When last heard from he was "doing" Northern Illinois. Look out for him, and either kick him out of your office or turn him over to the police.

Medical and Chirurgical Faculty of Maryland.

The following officers were elected for the ensuing year:

President—Dr. Richard McSherry.
Vice Presidents—Drs. W. Stump Forwood and Jno. S. Lynch.
Recording Secretary—Dr. G. Lane Taneyhill.
Assistant Secretary—Dr. Robt. T. Wilson.
Corresponding Secretary—Dr. W. F. A. Kemp.
Reporting Secretary—Dr. R. H. Thomas.
Treasurer—Dr. Judson Gilman.

Rhode Island Medical Society.

OFFICERS FOR THE ENSUING YEAR.

President—Job Kenyon, M. D.
Vice-Presidents—O. C. Wiggin, M. D., and H. G. Miller, M. D.
Secretary—George D. Hersey, M. D.
Treasurer—Chas. H. Leonard, M. D.
Censors—Drs. Ariel Ballou, Otis Bullock, J. H. Eldredge, Geo. P. Baker, J. W. C. Ely, Lloyd Morton, S. S. Keene, Benj. Greene.

South Carolina Medical Association.

The following are the officers for the ensuing year:

President—Dr. R. A. Kinloch.
Vice Presidents—Drs. A. A. Moore, J. Ford Priorleau, and T. Munro.
Recording Secretary—Dr. John Forrest.
Corresponding Secretary—Dr. H. D. Fraser.
Treasurer—Dr. H. W. DeSaussure, Jr.

The Association of Medical Superintendents of American Institutions for the Insane.

This Association met at Newport on June 26. Dr. J. H. Collender, of Nashville, presided. The following officers were elected for the ensuing year: *President*, Dr. John P. Gray, of Utica, N. Y.; *Vice-President*, Dr. Pliny Earle, of Northampton, Mass.

Officers of the Southeast Kansas District Medical Society for 1883.

President, Geo. W. Miller, Girard; *Vice-President*, J. H. Baxter, Columbus; *Secretary and Treasurer*, F. F. Dickman, Fort Scott; *Board of Censors*, R. J. Peare, Pleasanton; R. Aikman, Fort Scott; G. W. Scholl, Girard.

Items.

—Racine, Wisconsin, is going to have an insane hospital.

—Geneva, Illinois, has appropriated \$12,000 to erect a county insane asylum.

—An old feud: The feeling between ague and quinine is exceedingly bitter.

—The New Jersey Legislature has passed a supplementary act compelling the registration of all persons practicing medicine in that State.

—Inhalations of steam containing oil of eucalyptus, generated from the leaves, are highly recommended in diphtheria by a writer in the English *Lancet*. Thirty-seven cases of recovery are reported.

—To detect fusil oil in alcohol, Dr. A. Jorissen (*Chemist and Druggist*) adds to ten cubic centimetres of the sample, ten drops of colorless ani-

line oil and from two to three drops of official hydrochloric acid. If fusil oil is present, a red color soon appears.

—Lumbago may be quickly relieved (*Scientific American*) by binding a piece of oil-skin cloth, such as is used to cover tables, over the loins outside of the flannel shirt. Profuse perspiration is produced, which rapidly relieves the pain.

—The chief publications on natural science issued in Bengal the past year were catechisms of sanitation and hygiene for use in the schools in Bengal, and text-books of algebra, arithmetic, and physical geography. Baboo Kási Charan Gupta published the first volume of a Bengalese translation of an English work upon surgery.

—In an obscure part of the Bellevue Hospital yard there is a photograph gallery which has become an important adjunct to that institution. The hospital photographer takes photographs of all the unknown dead who are brought to the Morgue. He places the coffin containing the dead body in an upright position in an angle of the Morgue building, and makes a photograph of the face.

Personals.

—Professor Huxley has been elected a Foreign Member of the United States National Academy.

—Dr. G. Halstead Boyland has been elected to the Chair of Surgery in the Baltimore Medical College, and has also been appointed Resident Physician at the Buffalo Lithia Springs, Virginia.

—At a congregation of the University of Cambridge, held June 13, the honorary degree of LL. D. was conferred upon M. Louis Pasteur, Member of the French Academy, Director of the Ecole Normale, Paris.

—Dr. Roberts Bartholow, Professor of Therapeutics and Materia Medica, has been elected Dean of the Faculty of the Jefferson Medical College, Philadelphia, in the place of Dr. Ellerslie Wallace, who has resigned on account of ill health.

OBITUARY NOTICES.**MORITZ MICHAELIS, M. D.**

Dr. Moritz Michaelis died at his residence, No. 204 East Eighteenth street, New York city, June 23, 1883, in the seventy-second year of his age, of Bright's disease of the kidneys. He leaves a son and five daughters, three of whom are married. Dr. Michaelis was born at Detmold, Germany, October 18, 1811. He studied in the Universities of Göttingen and Berlin, from both of which he was graduated with high honors, and at the age of twenty-four began the practice of medicine in Berlin. He came to New York in 1840, and continued his practice here until his last illness, building up a large and profitable business in his profession.

QUERIES AND REPLIES.

C. F. H.—Where can the book "Hall's Differential Diagnosis" be had, and what is the price?

Ans.—The book is published at this office. Price, \$2.00.